

September 1952

house + home

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Alan Brockbank

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Tent house

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September, 1952

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cts there generally came picturesque
ulations of fee disputes between the
uilders and architects.

ohn A. McCague, vice president of Bridge-
lders who will erect about 225 units this
know of half a dozen architects who
onsider it a gross insult to their profes-
sion if I asked them to design a \$10-
home that I build. And yet the toughest
nt an architect can get is to design a
all house."

ading Bridgeport banker said architects
ecessary for mass projects, and he would
v a builder a higher value on a house for
ural service. But F. J. Brennan, mort-
e president for powerful First Federal in
e city declared: "Most builders are too
oned. You must use a sledgehammer
them to accept new ideas. This institu-
l always give a higher mortgage if the
as used an architect. It makes good sense.
pecially designed for a special project
ays be more salable than just another
an job."

atlanta, however, a Georgia architect-
racker put the whole thing in a nut-
"Many builders still have to be
ed. It may take the desire to save
r rather than an appreciation of the
c value of good architects to con-
e old-time builder. But he is being
ed."

Michigan license law cuts architectural requirements

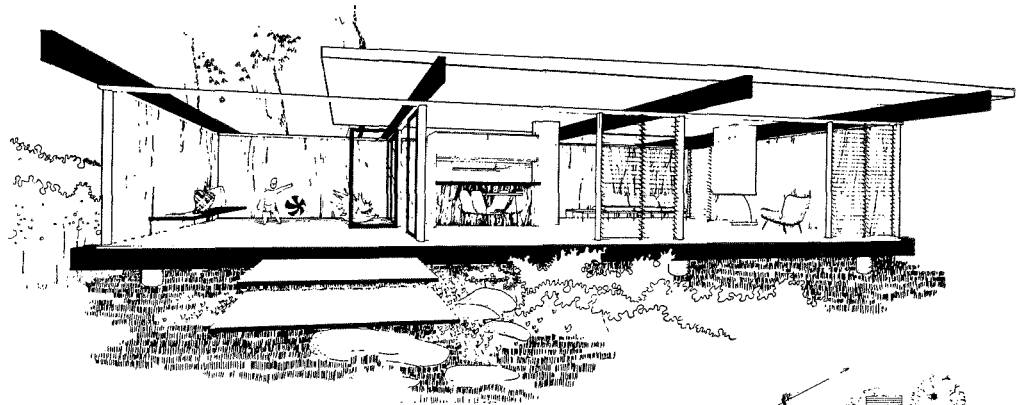
s in Michigan's license law for
cture and professional engineering
e this month may further reduce
ady slim builder-architect relation-
that state.

amended law requires the seal of a
ed architect or engineer to obtain
g permits for houses with floor areas
0 sq. ft. or more. The old law re-
approval when the cost exceeded
).

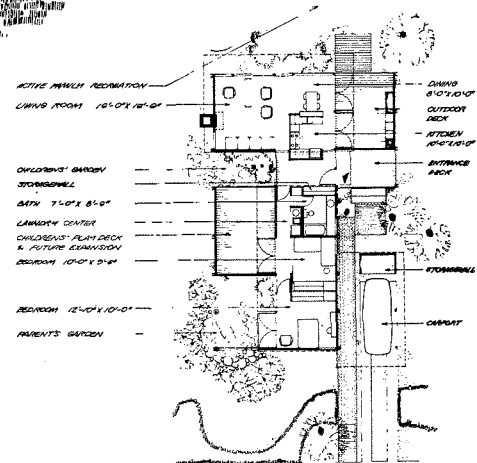
am Baker, registered architect and
in Cox & Baker, long-established
Pointe builders, estimated not more
% of Detroit-area homebuilders use
ctural services. In many instances,
d, several operative builders use
al plans. Edward W. Pratt, member
lders Association of Metropolitan
, estimated 85% of the houses
in the area last year lacked archi-
l service.

Apartment-house builders getting 80% FHA loans

running out of 608 apartment con-
on commitments, a small number of
ork and Chicago builders are plan-
ental projects under the new FHA
207, Title II, which provides for
ment insurance of approximately
mortgage loans.



PRIZE WINNER for the design for an all-plywood house of 1,100 sq. ft. that could be built on a standard inside city lot on a budget of \$11 per sq. ft. and qualify for normal financing was this sketch and floor plan by William L. Rudolph, of Pasadena. First prize in the contest, sponsored by Architectural Products and 18 leading national manufacturers was \$2,250. Additional winners were: 2d prize, Herbert L. Hawthorne and William E. Sexton, of Detroit and Plymouth, Mich.; 3d prize, Chapin, Johnson & Ridley, of Seattle; and 4th prize, Henry J. Lagorio, Roy Y. Maru and Roger F. Hooper, architects. Judges of the national competition were Whitney R. Smith, Raphael Soriano, A. Quincy Jones and Arthur Edwin Mann, all AIA members.



Foley, touring Alaska, finds igloo loans booming

Domestic builders may well envy a stream-lined home-loan program HHFA has set up for Alaskan Eskimos. There is no folderol like recording fees, title checking, and survey charges. There isn't even a mort-

In July, on a 10-day aerial inspection trip to Alaska, HHFA Administrator Foley found that the igloo loan phase of the territorial housing program, now in its third year, was chalking up sizeable gains. Here's how it works:

Eskimo families in "remote" areas can borrow up to \$500 from the Alaskan Housing Authority to improve their sod houses by adding floors and roofs or to build new, boxlike frame structures 14' x 18'. Loans are unsecured, repayable in five fishing seasons at 5½% interest. So far, the authority has made 606 loans totaling only \$192,650 of its \$1 million kitty. HHFA calls the repayment record "excellent." However, the agency stands ready to grant a moratorium in slack fishing or hunting years.

Eskimos do all the work themselves, coached by native teachers and missionaries. Principal materials used are shiplap vapor seal, sheet roofing, 2' x 4' framing, window sashes, and nails. The incidence of TB among the natives, which is the highest in the world, has been reduced as much as 80% by such renovations and new quarters. While sod houses provide quarters during winter months, they grow damp and unhealthy in spring thaws. Wooden flooring

and leakproof roofs make them far healthier.

Sometimes, families who are the proud possessors of new frame houses burrow back into their earth-walled igloos with the return of winter.

FHA issues warning on unsafe play-area surfaces

Paved surfaces under swings and other recreational facilities in apartment projects are often the cause of fatalities, according to results of a study by the National Recreation Association forwarded to all field offices by PHA. Maintenance savings obtained by using asphalt and concrete surfaces are negligible compared to injury hazards, PHA informed local housing authorities. In one city the playground liability insurance for one paved project has increased 300% in four years because of serious accidents.

NRA rated surfaces for safety in the following order: sand, dirt, sand mixtures, turf and sawdust.

Survey finds conversions far ahead of estimates

Conversions created almost as many additional dwelling units as all new rental construction from 1940 to 1950 in Baltimore and Norfolk, the HHFA and BLS were surprised to discover in a recent survey. Most conversions were in the lower-rental ranges, and many of them in violation of local ordinances. The conversions in these cities are at a much greater rate than previously assumed.

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...on homes with metal windows



One of the **easiest** ways to sell a home **quicker** is to give the buyer what he wants . . . Builders everywhere say homes with metal windows sell faster because home-owners prefer metal windows over any other type . . . A recent study here at Ceco substantiates what builders believe . . . what they know to be true of customer preference. Both builder and buyer said for example, they prefer Ceco metal windows, because they are easy to clean and maintain, won't rust, warp, stick or swell and are truly better looking . . . Slender muntins mean more light gets in . . . more

view, too . . . We believe it is significant that our study shows twice as many home-owners selected aluminum windows in the planning stage as chose a competing product . . . Yes, it's evident the swing is to metal windows . . . that is why we feature Ceco-Sterling Double-Hung Aluminum Windows and Ceco Metal Casements. If you are a builder who hasn't featured metal windows, let us tell you how you can make more by giving people what they want . . . Ceco-Sterling Double-Hung Aluminum Windows and Ceco Metal Casements.



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5 per cent cash for veterans is biggest question as Reg. X suspension date nears

Private housing starts in August miraculously past 110,688 units, but faced compulsory suspension Oct. 1 instead of grudgingly waiting until now. Allowed no alternative, the administration was expected to capitalize on the inevitable and extinguish it sooner, but if possible to appear as a gesture of "assistance" to impatient veterans and those who have been barred from purchasing new houses only because they lack sufficient cash.

Legislative suspension. Congress is expected to lift restrictions whenever starts fall below 1.2 million a year, for three months in a row, with allowance for seasonal variations. June and July starts (1,000,000 and 1,040,000) were both below the mark, and August starts have generally lagged from yearly May-July peaks (see chart).

Private starts in July were 102,400, the lowest month in almost two years that the 100,000 mark was passed by private homebuilding. But there was nothing to indicate an unprecedented or substantial upturn in activity that might approach 110,688, the monthly adjusted figure that would mean a production at the 1.2 million-a-year rate. With Regulation X thus apparently slated

to go, lenders and builders endeavored to figure what their new cash and monthly payment schedules might be. But only rough approximations were possible, because the government will still retain a small, superficial power to regulate credit through two provisions of the relaxation law.

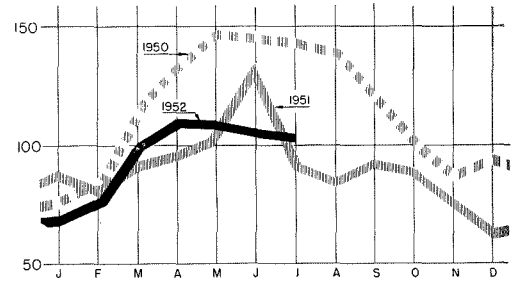
One of these permits the revival of Reg. X if housing starts go over the 1.2 million-a-year rate again for three months in a row. The other allows the imposition of down-payment requirements not in excess of 5% during periods while full credit restrictions are in suspense—a provision that apparently has misled many persons to the belief that all sales will have to be made for cash payments of only 5% or less when Reg. X is lapsed.

Former rules apply. But this doesn't end prior FHA sections that permit only 80 to 95% loans, nor state banking laws that generally limit conventional first mortgages to 65 to 75%. In these fields this provision's only possible effective application might be to forbid additional borrowing or second mortgages in amounts that allowed the buyer to put in anything less than 5% of his own original cash.

The greatest uncertainty arises over VA

HOUSING STARTS

IN THOUSANDS OF UNITS



Source: Bureau of Labor Statistics

HOUSING STARTS HELD FIRM during July, above the 100,000 mark. The 104,000 total was 2,000 units below June, but 13,500 units above July '51. Private housing rose slightly last month, sparked somewhat by increased defense and military residential building, while public housing nose-dived sharply to 1,600 from 6,800 units in June.

loans on which this provision may have far greater relative importance. Prior to Reg. X veterans were eligible for 100% loans in almost any amount. In New York many purchased \$20,000 houses on 100% mortgages. Under a suspension of Reg. X this presumably would be possible again—but the government also could impose a 5% cash requirement on all VA loans beginning at any particular sales price.

Pending the issuance of the general suspension orders, and whatever supplementary new regulations might be issued under this 5% rule, exact schedules of new terms cannot be calculated. The table below, how-

APPROXIMATE TERMS ANTICIPATED UNDER CREDIT MODIFICATIONS

FHA-INSURED LOANS

Value	Cash down payment			Monthly payments		
	Anticipated	Current Reg. X	Expected decrease	Anticipated	Current Reg. X	Expected decrease
	\$5,000	\$ 250	\$ 250	—	\$24.78	\$27.09
6,000	300	300	—	29.74	32.50	2.76
7,000	350	350	—	34.69	37.92	3.23
8,000	650	950	\$ 300	41.91	40.20	+1.71
9,000	950	1,200	250	45.90	44.47	+1.43
10,000	1,250	1,450	200	49.89	48.75	+1.14
11,000	1,550	1,900	350	53.88	51.89	+1.99
12,000	2,400	2,350	+50	54.74	55.02	.28
13,000	2,600	2,800	200	59.31	65.93	6.62
14,000	2,800	3,250	450	63.87	69.48	5.61
15,000	3,000	3,700	700	68.42	73.03	4.61
16,000	3,200	4,250	1,050	72.99	75.94	2.95
17,000	3,400	4,800	1,400	77.55	78.85	1.30
18,000	3,600	5,350	1,750	82.11	81.76	+ .35
19,000	3,800	5,900	2,100	86.67	84.66	+2.01
20,000	4,000	6,450	2,450	91.22	87.58	+3.64
21,000	5,000	7,000	2,000	91.22	90.48	+ .74
22,000	6,000	7,750	1,750	91.22	92.10	.88
23,000	7,000	8,500	1,500	91.22	93.71	2.49
24,000	8,000	9,250	1,250	91.22	95.33	4.11
25,000	9,000	10,000	1,000	91.22	96.94	5.72

VA-GUARANTEED MORTGAGES

Value	Cash Down payment			Monthly payments		
	Anticipated	Current Reg. X	Expected decrease	Anticipated	Current Reg. X	Expected decrease
	\$ 5,000	\$ 250	*	+\$250	\$22.68	\$26.40
6,000	300	*	+300	27.22	31.68	4.46
7,000	350	*	+350	31.75	36.95	5.20
8,000	400	\$ 380	+20	36.29	40.23	3.94
9,000	450	480	30	40.82	44.98	4.16
10,000	500	580	80	45.36	49.73	4.37
11,000	550	740	190	49.90	54.16	4.26
12,000	600	900	300	54.43	58.60	4.17
13,000	650	1,450	800	58.97	70.00	11.03
14,000	700	2,000	1,300	63.51	72.72	9.21
15,000	750	2,550	1,800	68.04	75.45	7.41
16,000	800	3,100	2,300	72.58	78.18	5.60
17,000	850	3,670	2,820	77.11	80.78	3.67
18,000	900	4,240	3,340	81.65	83.39	1.74
19,000	950	4,810	3,860	86.18	86.00	+ .18
20,000	1,000	5,380	4,380	90.71	88.60	+ 2.11
21,000	1,050	5,950	4,900	95.25	91.21	+ 4.04
22,000	1,100	6,650	5,550	99.79	93.03	+ 6.76
23,000	1,150	7,350	6,200	104.33	94.84	+ 9.49
24,000	1,200	8,050	6,850	108.86	96.65	+12.21
25,000	1,250	8,750	7,500	113.40	98.48	+14.92

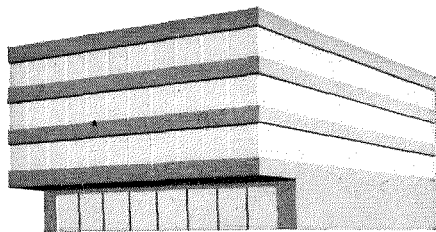
ANTICIPATED PAYMENTS in the FHA tables above are based on varying down payment and maturity regulations in different price brackets that would prevail except for Regulation X. The anticipated VA terms allow for a special 5% cash requirement that could still be imposed under a suspension of Regulation X. This also might be waived by the government,

particularly for lower, if not for higher sales prices, in which event new VA terms would be more liberal than those shown above.

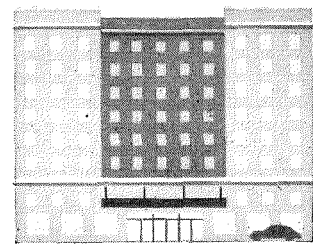
*—Current VA credit regulations require payment of closing costs in cash; previously they could be included in the mortgage.

whatever you build... whether  it's a school

...a hospital



...a hotel



a home ...



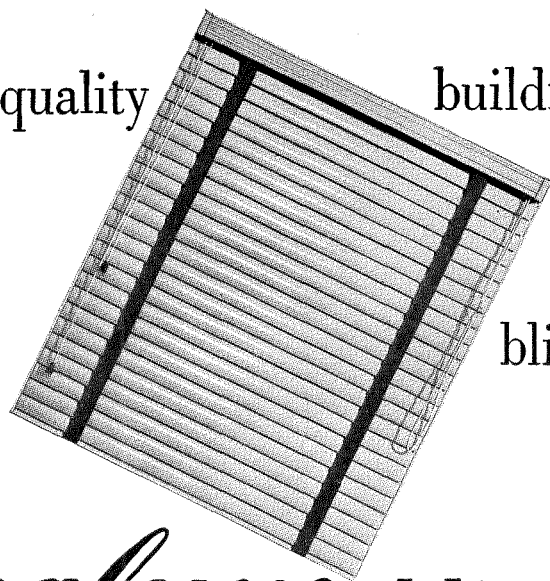
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is believed to be a close approximation of what can be expected for FHA and financing, except that the VA figures have been calculated conservatively, as if it were a required 5% cash payment all the line.

Conventional financing the greatest benefit from suspension of Reg. X will be termination of the ban on second mortgages for borrowing to complete a sale if "credit" exceeds old Reg. X terms. First mortgages the federal restrictions are less up to about \$17,000 were generally less severe than banking law regula-

Mortgage market temporarily softening, lenders react later to firmer money policy

One of the most long-standing paradoxes in government and housing: through rent control the government holds down the price of the commodity because it is in *short supply*; in mortgage financing the government holds up the price of the commodity, on any day it will insure or guarantee, because it is supposedly a *surplus*.

Some time may reveal how this contradictory situation will be resolved, but while there is another short-term paradox in financing for which there is no visible explanation. That is the end of Truman administration's "easy money" policy and a general trend to tighter money, while simultaneously the mortgage market faces somewhat softening condi-

Higher rates in offering? Explanation for the seeming conflict, according to mortgage experts, is the absence of a direct or indirect interaction between long-term and short-term money rates. Thus the payment of 2% by the Treasury for 1-year Treasury bills, the highest rate on this type of financing in 20 years, would not be reflected in mortgage rates unless and until short-term rates hardened as well.

In August, however, steadily accumulating savings and amortizations were giving principal mortgage sources more available than at any time since government securities were "unpegged" in March, 1951. Finance companies were increasing their mortgage commitment quotas to regional offices and correspondents. Some institutions unable to acquire sufficient conventional loans to hold down mounting cash reserves, were turning to 4% VA paper (at discounts) or going afield to other sources to buy FHA-insured obligations.

Outlook points the direction. There was a rising expectation, however, that prime and other long-term financing costs would turn upward after Labor Day and

conditions governing mortgages in most states.

Commercial curbs going. The Reg. X restrictions on credit for commercial construction also appear likely to be terminated along with the residential credit limitations. This is not mandatory, but additional commercial construction that might result would not total more than \$150 million, it is estimated, and the federal reserve would be reluctant to maintain an administrative staff for the sole purpose of controlling such a small sector of the economy.

the Federal Reserve Board would generally encourage tighter money. In that case there would be increasing competition for some of the funds that supply the mortgage market, and as these became relatively scarcer again this could be reflected in a stiffening of conventional mortgage rates and renewed absences of funds for price-fixed FHA and VA loans. This change, it was suggested, might come at about the turn of the year.

Fanny May steps in again. One part of the bundle of contradictions making up the government's housing finance policy (also sometimes called "the mortgage mess") is the Fanny May operation. This

Mayor "renegotiates" L.A. public housing; highest Florida court bars redevelopment

After a secret trip to Washington to renegotiate Los Angeles' public housing contracts with federal officials, Mayor Fletcher Bowron announced drastic modifications in the bitterly disputed program that a June referendum disapproved and the city council has been endeavoring to scrap.

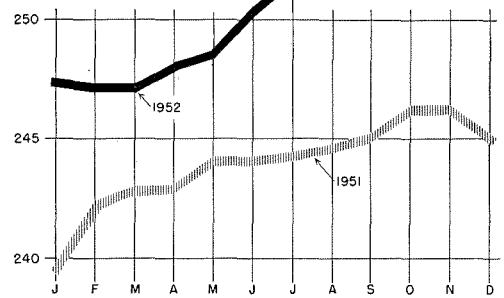
Adding to the grand, court-snarled California mixup the mayor announced revisions in the 10,000 unit, \$110 million program as follows:

- ▶ Elimination of all 13-story buildings, for which plans had been prepared by Neutra & Alexander, Allen & Lutz and W. F. Ruck. Three-story limitation on all projects.
- ▶ Reduction of total number of units to 7,000, and reduction in total costs to \$83.5 million.
- ▶ Abandonment of that portion of the Rose Hill project north of Sinova St., reducing this from 2,000 to 700 units.

Sunset for Florida projects? Across the continent in rival Florida there also was disagreement with federal housing operations, but in a calmer mood. The Florida Supreme Court handed down a deci-

BUILDING COSTS RISE

INDEX: 1926-'29=100



Source: E. H. Boeckh & Associates

HOUSE BUILDING COSTS CLIMBED slowly, spurred on mainly by wage increases. Total increase in Boeckh index was small, from 251.1 to 251.8.

takes care of the effects of fictitious, artificially maintained interest rates in the FHA and VA operation by supplying government funds to the market when lenders can't or won't invest in those mortgages at the government's price ceilings.

On Sept. 2 Fanny May resumed the purchase of nondefense housing mortgages. Before adjournment Congress authorized it to spend another \$362 million for this purpose, and with prior funds it has a total of about \$400 million available.

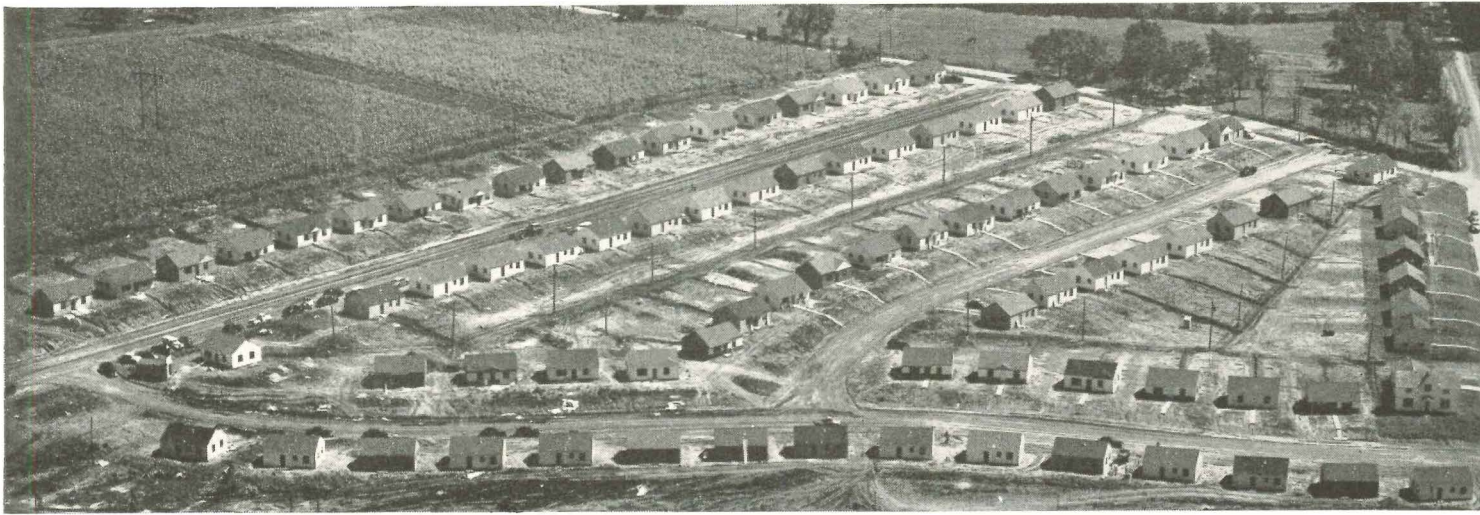
Net result of the new Fanny May purchase program: \$400 million more of government money to be funneled into the FHA and VA market while the FHA and VA continue to say the market's funds are so ample that the 4% and 4¼% ceilings should not be raised.

tion that would block HHFA slum clearance and urban redevelopment projects. The state's highest court ruled that the Daytona Beach Housing Authority violated the state constitution when it condemned privately owned lands so they could be cleared of slums and then resold to other private purchasers for new uses.

Biggest of a number of projected redevelopment jobs throughout the state that will be hit by the decision is clearance of the dilapidated 90-acre Central Negro District in Miami.

Switch to Baltimore plan. Miami City commissioners, who may have had an inkling of the coming ruling, voted one week earlier to create a new department of slum clearance.

They also tentatively offered the job of heading the department to G. Yates Cook, chief of the Baltimore Bureau of Housing, who has won national recognition by the job he has done with the "Baltimore Plan" for slum clearance.



SAFE FROM FLOOD WATERS these Highland Crest houses being erected by the Winn-Rau Corp. are only one mile from the Armourdale section of

Kansas City, Kan. that was ravaged by the swollen Kaw (Kansas) in July '51. But these units for flood victims are 300' above river

Builders erecting 1,300 "floodie" houses for river victims; \$7,000 each—no cash

Safe, high-ground, permanent new housing for 1951 flood victims around Kansas City, Kan., has taken a year to materialize in volume. But builders report that local rules and regulations were greater causes of delay than FHA or other federal agencies.

With all emergency confusions and routine obstacles finally resolved, the area this summer has seen construction of 1,300 two-bedroom FHA-insured "floodie" homes that are sold to official "disaster" victims for \$7,000 each with no down payments and 25-year mortgages.

Homebuilder initiative. Leadership in flood rehousing in this area was taken by the Home Builders Association of greater Kansas City, which was prepared to erect a large colony of "floodies" itself on a non-profit basis if individual builders had failed to produce such structures. As a preliminary the association located and obtained an option on a high, level 200-acre tract of farmland, but immediately two builders applied for portions of it for private competitive construction.

Building on this Highland Crest site that was assembled by the association are the Winn-Rau Corp. (initially 500 units for flood victims), and Donald H. Drummond (21 flat-roof houses with virtually all glass living rooms). Seven other builders have been erecting another 800 "floodies" in other nearby locations.

Torrent of sales. Winn-Rau's conventional two-bedroom houses on slab foundations have 700 sq. ft. of living area and sell for \$7,000 completely finished, sodded and landscaped regardless of lot size or location. The sale of 500 in 30 days to flood victims, who require no down pay-

ment under FHA "disaster" rules, has caused this firm to plan another 700 for all takers, flood victims or not. Monthly payments for flood victims are \$59.92, which includes new street and sewer assessments and trash and garbage collection.

The two-bedroom flat top designed by Gair Sloan for Drummond has 870 sq. ft. of living area and costs \$7,000 without interior painting and trim, or \$7,800 completely finished. This builder first planned to build on 21 lots in Mission Township but for lack of a garage the zoning board three times disapproved his plywood exterior dwelling that has a 20' x 13' living room with floor-to-ceiling window at both ends. Meanwhile it received full FHA approval so he arranged to shift his com-

National Home Week, Sept. 14-21, to show builders' cooperation, merchandising skill

With each successive National Home Week the nation's builders display greater merchandising skill and greater intra-industry cooperation to make the public's house-shopping task easier and pleasanter.

The celebration this month, Sept. 14-21, will be marked by extensive adoption of the "Parade of Homes" idea. This is the system of having all the builders of a community erect their special Home Week models at a central location, so prospective buyers can see them all in one place instead of having to travel far and wide.

Builders in a few cities have held these annual merchandising and publicity "weeks" at separate dates from the nationwide celebration. Thus Fort Worth witnessed a new homes "parade" June 8-15.

commitments to the Highland Crest site in another county.

Criticisms and refutations. Several months ago the J. C. Nichols Foundation of Urban Land Institute awarded a planning essay prize to a college student who depicted the Kansas City flood rehabilitation program as a planless comedy of errors. Main criticism in the essay:

▶ In Canada, where the Red River of the North went rampaging through Winnipeg a year earlier, the Canadians had established a regional authority for the river basin. A Red River Valley authority was able to handle the rehousing and rehabilitation program there "without destroying local control—without complete domination by national authorities."

Builders in the area disagreed with the accusations. More often they praised the cooperation and efficiency of FHA, HUD and VA, and attributed delays to both federal and local "necessary controls" of local agencies.

Houston builders will exhibit their wares in this manner Nov. 2-9; Miami, 23-30.

Cities scheduled to have their big home parades Sept. 14-21, however, will include San Antonio and Dallas, Tex., Minneapolis, Milwaukee, Portland, Ore., Columbus, Richmond, Little Rock, Davenport and Madison.

The American Gas Association and the Home Dealer's Association are Home Week sponsors with NAHB. And this year at least one manufacturer has hopped on the model-home band wagon in a big way. Dubuque, Iowa, Carr, Adams & Collier will construct a special model home to demonstrate their cabinets, doors, and woodwork.

AEC hopes HHFA will handle Ohio plant housing; relocatable units to be favored

of housing problems and anxious to building more government towns such as Oak Ridge, Tenn. and Richland, Wash., the Atomic Energy Commission hopes to put most of the shelter headaches at its new Ohio River plant into the lap of HHFA. It has already started checking with Administrator Foley to learn how it might be able to lean on Title III of the Defense Housing Act—a federally funded and operated temporary housing program.

Crux of the Portsmouth-Pike County problem will be to provide shelter for transient workers. Present estimates are that more than 10,000 men will be brought from the outside to build the mammoth plant. The other 25,000 to be needed at peak of building operations can probably be recruited locally and will require additional lodgings.

Workers face sidetracking. Present HHFA thinking is that relocatable houses will be ideal for construction workers with families—much more desirable than trailers. After they are no longer needed at the Ohio River installation they can be shipped to other localities for the completion of their amortization.

Plans for permanent housing for AEC employees who will staff the completed plant, all brows are not particularly clouded. Little trouble is anticipated in inducing private builders to provide about 1,500 relocatable units under Title IX.

Miscalculation of local housing absorption and an embarrassing rent control mix-up combined to put the AEC in the red on its contracts for privately supplied temporary housing at its Savannah River bomb project. Even so, the agency deserves, it fared better than if it had contracted another government town.

HHFA revises AEC figures. Here's what happened. Back in the summer of 1950, before the Defense Housing Act was amended, AEC tried to avoid direct federal construction by agreeing to underwrite the costs for trailers and dormitories. Contracts were let for 4,000 trailers and 7,500 dormitory beds for single workers, although the dormitory contract was later cut back to 5,500 beds because workers were finding quarters elsewhere.

The AEC contract guaranteed the John Robbins Co. 90% occupancy of the 4,000 trailers for four years at \$82.50 a month per unit. But then the Office of Rent Stabilization moved in under its critical de-

fense housing area powers and rolled back the trailer rents to \$60 a month, leaving AEC to make up the difference to Robbins for the remaining three years of the contract.

On dormitories rent guarantees to Lyles

Coogan will urge Wherry act extension with authority to build outside of bases

After eight months duty as the Defense Department's housing trouble shooter, burly, energetic Thomas P. Coogan has come to some important conclusions.

He thinks, for one thing, that the way would be paved for solving the family housing problem at many military posts if the armed services would be less conservative in classifying bases as permanent. Once an installation receives that rating it becomes eligible for private-enterprise building under Title IX of the Defense Housing Act as well as under the Wherry Act.

Also to be stressed in Coogan's forthcoming report to the Defense Secretary will be the importance of renewing the Wherry Act next June. Currently, most Wherry developments are being built on bases under ground rent contracts. Coogan urges that more thought be given to authorizing off-base projects. This would make it possible to take care of a lot more places where it is difficult to carve out proper locations on the bases.

One of Coogan's greatest contributions

& Lang Construction Co. were \$16.50 a week for a double room, but this was reduced to \$13 a week by ORS. On June 30 all 4,500 units were completed, but only 958 were occupied. This AEC guarantee was for 100% occupancy, but only for two years. In addition to guarantee payments, AEC also has reimbursed the contractor for preliminary expenses incurred on the other 3,000 units that were canceled.

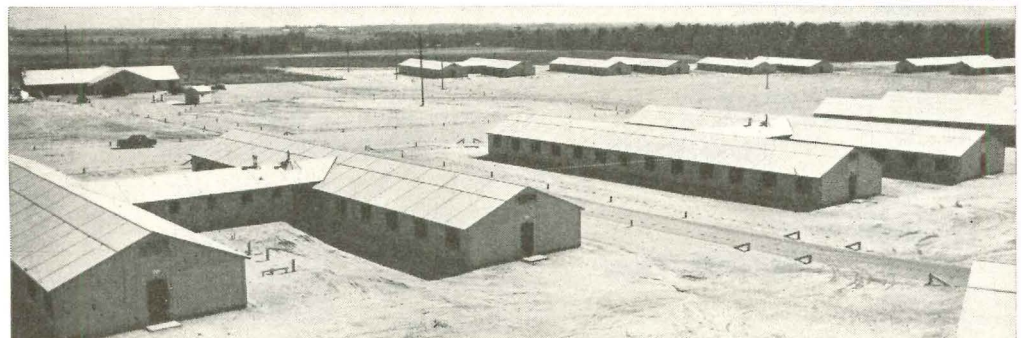
as the department's unsalaried housing director has been his background as a builder and mortgage banker, and his service as an invaluable intermediary between the armed forces, government housing agencies, private builders and mortgage lenders.

Recently he has focused his liaison talents on one of the toughest problems confronting military men—how to meet temporary housing needs at permanent bases. Despite their mobility, trailers leave much to be desired in the way of living comfort. Coogan believes he has found the solution in an idea he is exploring with the PHA.

This would involve using light, movable houses developed during World War II as merely the first step in meeting the additional needs at some of the crowded, longer-established bases. Second step would consist of improvements and expansions.

Thus, if it appeared that the temporary facilities would be required over an extended period, sprucing-up operations would be undertaken; new floors installed, etc.

Atomic Energy Commission



TEMPORARY HOUSING for construction workers at the AEC's Savannah River project include the barracks (at top, photographed during construction) and this trailer city at Barnwell, S. C.

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(Combination fan & blower)



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Customer
acceptance
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Remember! Only Blo-Fan Model 210 has this nine-speed control switch.



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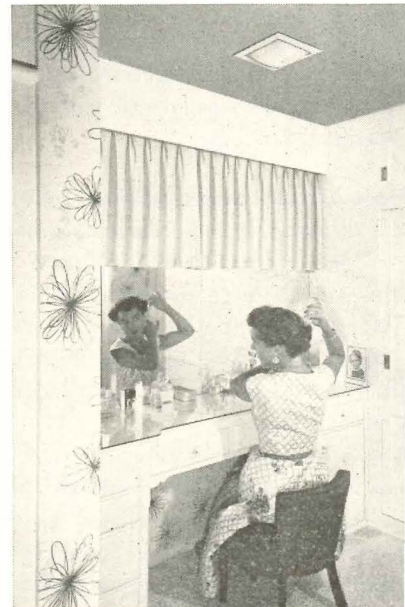
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THE ARCHITECT MAKES LIFE EASIER FOR THE HOUSEWIFE

Design considerations in specifying equipment for a home fall broadly in categories—the first naturally has to do with cost, ease of installation and mechanical problems of construction; the second deals with appearance, utility and functional features of the equipment.

This discussion is concerned with the second category as it relates to recessed lighting fixtures, ventilating fans and recessed electric wall heaters. As examples of the products of Pryne and Company, Pomona, California, will serve ideal purposes of illustration. Pryne products are PryLite recessed lights, Blo-Fan electric exhaust ventilators and Glomaster recessed electric wall heaters. These appliances have an important feature in common—they are exceptionally easy to clean. This and other features are better explained by the pictures and captions which follow:



A single Pry-Lite provides ample illumination in this dressing room. Added spaciousness from the broken ceiling add charm and attractiveness.



"Snap-up" fronts make Pry-Lites the cleanest recessed fixtures available. Whether in the ceiling or in a soffit cabinet, as shown, the fronts merely pull down for dusting or cleaning.



Glomaster infra-red recessed wall heater radiating heat from head to toe with absolute safety. There are no flames to ignite towels hanging.



Attractive Glomaster grille merely snaps out cleaning. It takes only seconds for this easy cleaning. There are no bolts or screws to remove.



In the Blo-Fan electric exhaust ventilator, simply loosen one part by hand, and the grille and motor assembly are easily removed. Washing with soap and water cuts all grease off the parts.

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The Recessed Lighting Fixtures

(With snap-up fronts)

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 PRY-LITE interchangeable fronts are available in a wide variety of lens patterns.
 PRY-LITES' "Snap-Up" fronts make them easier to relamp or clean—merely snap off—snap on.

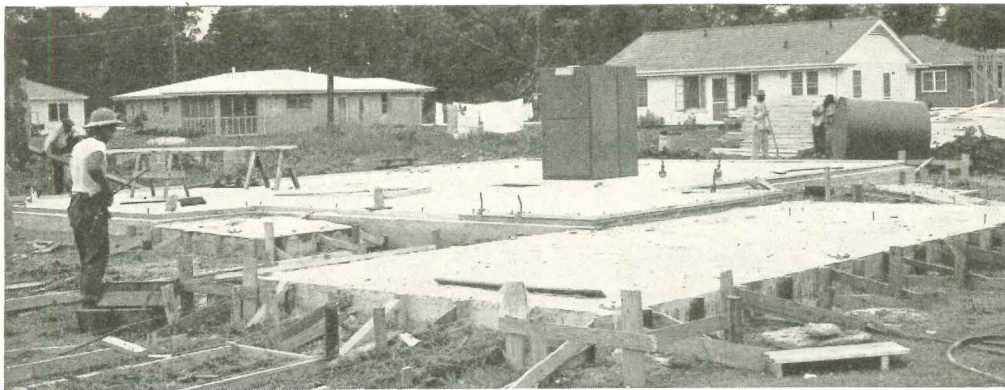
For complete details see: Sweet's Builder's File $\frac{61}{PRY}$ Sweet's Architect's File $\frac{31a}{PRY}$ or write to

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Pry-Lites, the original recessed lighting fixtures with snap-up fronts!



COMPACT HEATING AND COOLING UNIT, the entire equipment for summer cooling and dehumidifying, winter heating, and all-year air circulating and cleaning, as installed on the foundation by New Orleans builder Robert F. Morrow to demonstrate that his house is "built around air conditioning."

Rapid trend to air-conditioned houses puts pressure on designers, producers

Keeping tally on new air-conditioned housing projects across the nation became impossible. Each day brought new announcements—some of projects of 400, 450 and 500 units each.

National Home Week model openings promise a bumper crop of air-conditioned dwellings, and many builders also look to the relaxation of Reg. X by the end of this month to spur sales tremendously. For next year it looks like it may be a race among builders to clinch sales and prevent withering of their operations by offering air conditioning in models priced as low as \$10,000 to \$11,000.

Quick market thaw. On the production side manufacturers and designers suddenly faced unprecedented speed-up demands. As Jack Kice, engineer-inventor of the Coleman Co., told Houston homebuilders in August, the industry for years regarded widespread residential air conditioning as a mere possibility somewhere in the future. Then almost overnight came the swelling orders for equipment for new middle- and lower-priced houses, and the industry can scarcely catch up with the demand.

"We've been doing a lot of thinking," said Kice, "but haven't slanted our thoughts far enough toward the residential field. Now we are trying to catch up with you [builders], and we need your cooperation. You want a unit that will not add appreciably to the cost of the house and that will not take up much space. The answer in part is that the greater the production, the lower the unit cost and the greater the sales volume."

Formerly accounting for only 1 to 10% of the air-conditioning market, within ten years the residential field will constitute more than 50% of the market, estimated F. J. Van Poppelen, general manager of GE's air-conditioning division. A Servel spokesman has suggested that installation

of a combination heating and air-conditioning unit while a house is under construction currently runs only \$600 to \$1,000 over the cost of a heating unit alone.

Full cost absorption? Meanwhile Carrier Corp., in promoting two special demonstration installations in New Orleans and Kansas City, has claimed that final house costs will be the same or less than for comparable nonconditioned dwellings. This will be accomplished by designing

Financing key sought for large market: providing old folks with new homes

Persons over 65 constitute an important market for the merchant builder under more favorable financing programs and more thoughtful designing. This was the conclusion reached at Michigan University's fifth annual Conference on Aging, cosponsored this year by HHFA and devoted to housing.

Over-65 population is now 12 million; will reach 16 million by 1960, and 21 million in 1975. Of the present older population 68% own their own homes, a higher percentage than in any other age group. But often these accommodations are in poor condition or no longer suited to their needs.

On one hand most of these owners have large equities that could be converted into down payments on new houses, but about half of them have incomes under \$1,000 a year. Whereas FHA will now insure mortgages only for persons up to 57, a saving-and-loan speaker told the conference his members would make loans to people of 60 to 65 if the security was sound.

Comforts for all ages. One of the best suggestions of the conference came from Nate Manilow of Park Forest, Chicago,

these houses around the combination heating and air-conditioning equipment, then achieving mass construction economy by erecting 500 units each, said Carr. The New Orleans houses are selling for \$18,250 to \$19,300 exclusive of plot, the Kansas City dwellings are offered for \$16,500 to \$17,500.

Contrasted with glowing accounts of fast, soaring sales when air-conditioned houses were placed on display were cautionary reports:

► On Long Island LeRoy Newell, of New Daniel, reported "in-between-size" difficulty getting proper capacity equipment for his larger \$35,900 houses without adding a \$2,500 to the cost. But far from rejecting air conditioning, Newell declared it will become as important a part of a house as insulation. "For large houses we must have a unit designed that won't need so much special construction," he added. "I think some of the people who are doing halfway jobs with air conditioning are giving us a black eye."

► In Dallas sales in one \$12,500 project lagged at 30, but according to trade sources this probably because 1) the house was frame construction, whereas Dallas buyers demand brick veneer in any houses above \$10,000, 2) a down payment was a hindrance, 3) the design was of advanced contemporary design, and the combination of so many innovations—decorative frame construction and air conditioning—was too much for the market.

who said his company is building several hundred single and no-bedroom apartments that could rent for \$40-45 a month, plus utilities. They are right near the Park Forest shopping center and far from churches, two things that are high in the demands of older people. These units will not be reserved exclusively for older people, because they will also appeal to young couples.

Face public housing eviction. In public housing there are no provisions for aging as such. In fact, public housing is restricted to "low income families," and on the death of one partner, the PHA is forced to ask the survivor to leave. Also, an elderly single person is restricted from re-entry by this provision. On the state level something can be done, and recently New York State Housing Commissioner Hermon Stichman ruled that 5% of all new apartments would be set aside for old folks, either single or couples, in future projects.

An anti-inflation note of possible interest to employers and labor as well as builders was the suggestion that the elderly be given pensions partly in the form of guaranteed life rentals instead of mo-

Savings of \$150 per house achieved in cities using National Plumbing Code

...ing for widespread adoption of the National Plumbing Code, NAHB says savings as high as \$150 per house in new construction have been made in some cities adopting the modernized standards of this document.*

The national code contains no requirement for a house trap and fresh-air inlet, a NAHB check of 80 states and cities found that this "obsolete installation," costing \$25 to \$40, is still mandatory in 14 of 37 surveyed municipalities. The cost of 4" iron building drain and soil stack over 3" pipe recommended by the national code is \$25 to \$35 higher for a one-bathroom house. But 72 of the codes NAHB studied required the larger fittings.

Compare and report. Research by the standards committee listed 31 of the 80 codes as "antiquated." Twenty-seven were classified "satisfactory," 19 "new, but restrictive," and 20 cities and 1 state (Ohio) were found currently rewriting their plumbing standards.

With plumbing accounting for 11 to 15% of the cost of a new single-family house, NAHB is sending results of its study to all affiliates to stimulate comparison of local ordinances with the national code and thus spur local reforms. Excess costs from restrictive codes of various types may now be running as high as \$100 per house (see editorial p. 108).

Challenge to others. Since publication a year ago the national plumbing code has already been adopted outright or with only minor revisions by 41 cities, and has served as a guide for more than 150 other municipalities and states in updating their regulations. Scores of agencies and organizations participated in the long, tedious efforts required to produce the document, and it now stands as a symbol of the progress that is also attainable in other segments of construction.

Many individuals also contributed to the successful preparation of this code, but probably none more than Vincent T. Manas, author, illustrator and publisher of the new invaluable supplement, the *National Plumbing Code ILLUSTRATED*. Engineer-plumbing contractor Manas came to Washington in 1934 to help establish a plumbing and heating section in the National Security Administration. Subsequently he was pushed and pulled from

one housing or research agency to another (at present he is in the NPA construction division), but his greatest ambition was always the preparation of a universally accepted national plumbing code.

War code chairman. The Bureau of Standards had developed several plumbing codes and manuals from 1923-40. But when the War Production Board sought greater acceptance of the last of these (BMS-66) for wartime material and manpower conservation, it found both management and labor unwilling to use it. To resolve this difficulty Robinson Newcomb, then in Commerce, convened a joint trade committee to prepare an acceptable emergency code, and named Manas chairman.

The harmony he achieved in uniting the two sides behind wartime standards was such that after the war when NHA sought continuation of this joint action directed at a new national plumbing code, the two groups agreed to continue their cooperation, provided Manas continued as chairman.

Eventually the code, for both residential and commercial construction, was completed and issued last year, but Manas felt it had one great drawback—the lack of a set of simple illustrations that would make the formidable technical text easier to fol-



VINCENT T. MANAS

low and greatly reduce the chances for error in its application.

Not dependent on US. When he learned that no federal money could be used to print the illustrated manual, Manas decided it was so necessary that he published it himself. Expenses for the 188-page book, which has 184 diagrams, plus 2½ pages of symbols, were about \$5,000, not counting his own time. But in two months sales at \$3 a copy to architects, master plumbers and others by Manas Publications, 4513 Potomac Ave. NW, Washington, have passed the 1,700 mark.

PEOPLE: Levitt staff move into future town hall; firm sells "Landia" tract and L. I. shopping facilities

Transfer of entire executive staff of Levitt & Sons from Manhasset, L. I. to Levittown, Pa. was effected last month with only **Bill** and **Al Levitt** continuing to operate extensively from official L. I. headquarters. In Bucks County, the future Levittown municipal building is now administrative headquarters for the organization.

Figuring that their new development near the Fairless Steel Works will occupy their full attention for the next three to five years, the Levitts sold their utopian "Landia" tract at Jericho, L. I. in June to Gross-Morton, and in July disposed of most of their Levittown, L. I. shopping centers to Webb & Knapp, who plan for their break-up resale to tenants and investors.

Sale of 646-acre tract to Gross-Morton was reportedly made for about \$3 million with almost half of it in cash. Levitts still hold other L. I. tract, however, including huge potential department-store site where model houses and construction exhibition hall were erected.

Candidate for the Democratic nomination for US Senator from New York this Nov. is **Robert F. Wagner, Jr.**, son of the author of the original federal public housing laws as well as former NYC commissioner of Housing and Buildings and former chairman of the NYC Planning Commission. Wagner would run against Sen. **Irving M. Ives, R.**, board chairman of City Title Insurance Co.

NAMED: **Ben F. Stormes**, attorney, as executive director of the Home Builders Association of greater Cleveland; **Thomas G. Grace**, who recently resigned as FHA state director for New York as chairman of the board of Lawyers Mortgage and Title Co.; **Joseph T. Lyons**, acting director since the death of **Edward J. Kelly** in May, as director of the Chicago FHA office; **John H. Stelle**, as board chairman of Arketex Ceramic Corporation, and **John A. Stelle**, his son, as president, succeeding his father; **Fred G. Miller**, as treasurer; and **Andrew Hopple** as secretary of NuTone, Inc.

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SEATTLE

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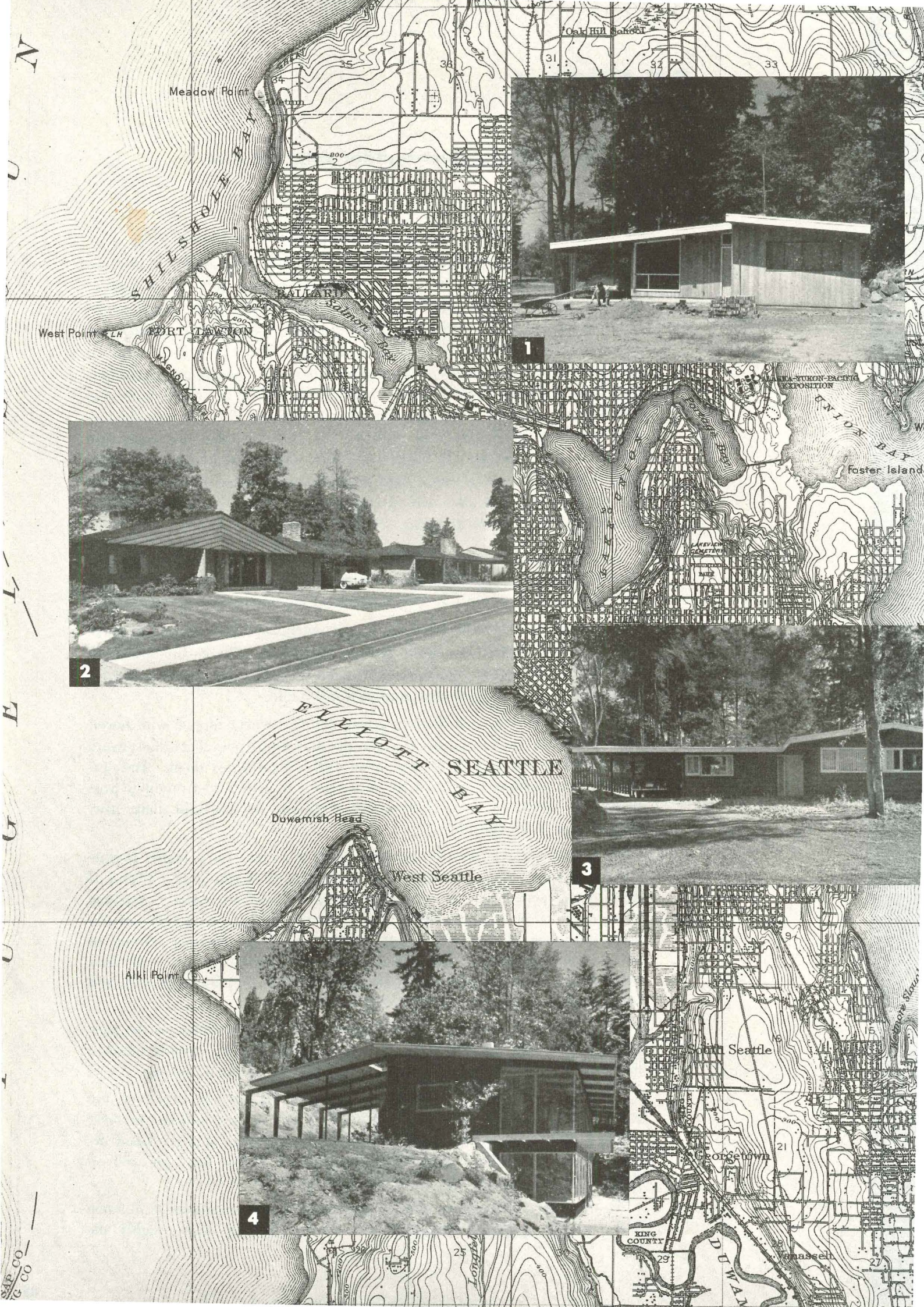
Seattle is proving that it pays a merchant builder to use an architect.

The Seattle Master Builders' Association is proud that well over half its 130 members engage architects as a matter of course on their speculative projects. Unlike the king-size builders of Long Island's potato fields or the mass merchants of Los Angeles' sprawling plains, most of these builders are small builders—five to 25 house-per-year men. Their experience offers a variety of ideas and special-purpose plans that suggest how the small builder anywhere can compete with the big builder, by serving the clientele the big builder cannot serve: 1) buyers who are too individualistic to take the big-tract product; 2) buyers who want to live close to town and must buy houses on scattered lots; 3) buyers who want contemporary design at moderate prices; 4) buyers whose land preferences and way of living necessitate conquering tough sites and special weather or view problems, but who cannot afford custom-built prices. (See pp. 96-98.)

The quality of Seattle's residential architecture is unusually high, constantly improving with fresh ideas. What lifts Seattle so far above average is a high concentration of factors that encourage innovation, individualism:

- ▶ *Little traditional architecture:* there isn't much Cape Cod around to make bad copies of. Seattle has never been so steeped in style as Colonial New England, the Georgian South or Spanish-born California, and this lack of styles has made a fresh design approach inevitable.
- ▶ *Spectacular terrain and climate:* green, rolling scenery topped with towering conifers and such magnificent water and mountain views that almost every homebuyer demands a house that takes full advantage of them. And special design problems: more hilly sites than any other metropolitan area in the US, plenty of sea and sky glare, wind and driving rain, long, gray days and brilliant sunshine.
- ▶ *The stimulus of a university.* Seattle is a big university town, highly literate and appreciative of good design. The University of Washington's School of Architecture encourages its undergraduates to spend their summers working with construction crews, believes 75% take the advice and benefit greatly from this form of "learn-by-doing" internship. Every summer, groups of students pool resources, design and build small homes for sale with their own hands. Most architectural graduates stay on to practice in Seattle, and many know how to work with builders successfully.
- ▶ *Good existing architecture.* Well-designed custom homes have set the pace and spread design ideas to more and more builder houses. Seattle boasts a high percentage of home ownership, well above the national average.
- ▶ *A softer, more normal housing market,* a growing housing inventory and stiffer competition, as elsewhere. These have encouraged builders to seek, through architects, an up-to-date product with new sales appeal. Good design has itself become competitive—the more of it that has appeared on the market, the choosier the average Seattle buyer has become.

To this ripe combination, add 1) an extraordinary concentration of some 350 licensed architects competing for clients (Denver, with roughly the



Meadow Point

SHILSHOLE BAY

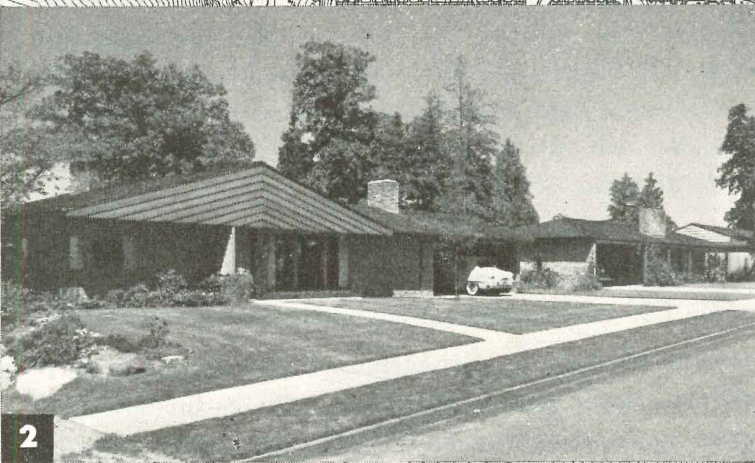
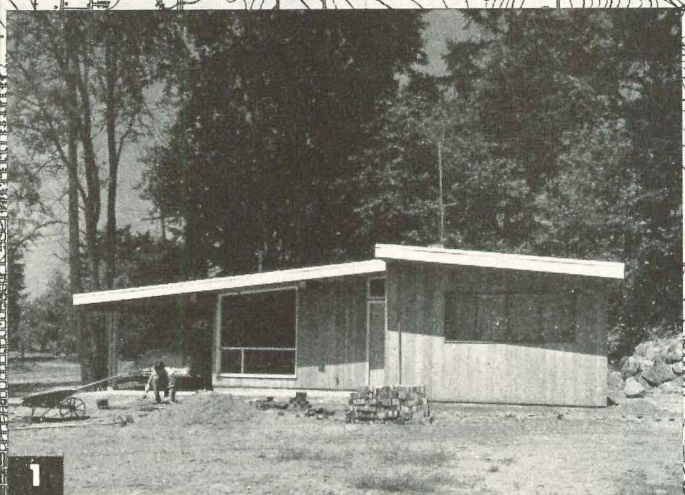
West Point

FORT LAWTON

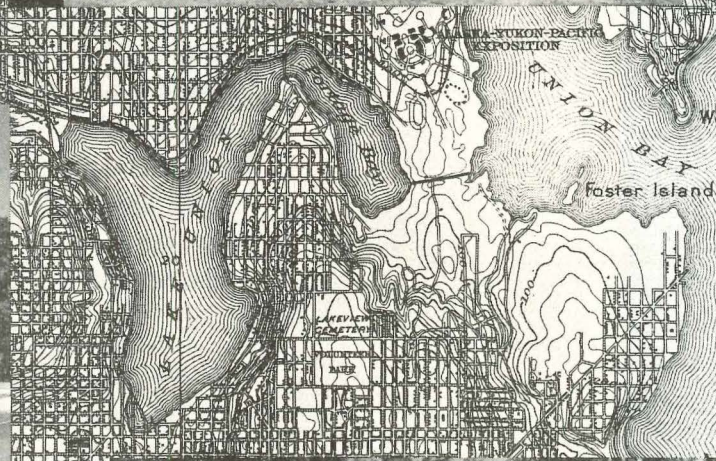
WENDON

SPINDLE CREEK

1



2



ALASKA-YUKON-PACIFIC EXPOSITION

ELLIOTT BAY

Foster Island

ALKI POINT

3



ELLIOTT SEATTLE BAY

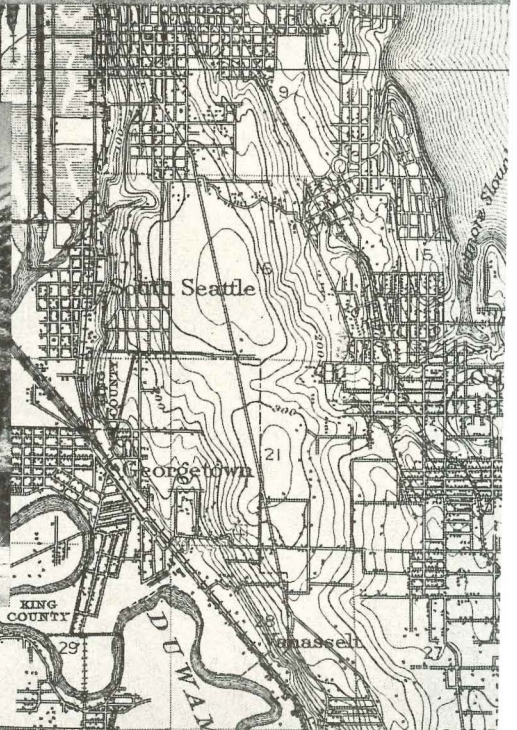
Duwamish Head

West Seattle

Alki Point



4



South Seattle

Georgetown

DUWAMISH RIVER

Russell

Alki Point

Longfish

SAP CO
25 CO

population, has only 35); 2) a local AIA chapter which sponsors annual custom-house competitions and meets with the builders to iron out mutual problems; 3) a NAHB local which recommends architectural services to its members; 4) a comparatively enlightened FHA office largely manned by qualified architects; 5) a good public-relations program: Sunday newspaper features on residential architecture and rotating exhibits of different architects' work at a large downtown department store.

FALLS

The experience of the small Seattle builder shows there are some lessons in architect-builder collaboration, that it works best if the builder

sticks close to the architect's designs once they have been worked out to the satisfaction of both parties;

perseveres long enough to give contemporary design a chance to prove itself;

resists the temptation to overprice the product.

Often a builder's first venture into contemporary design scares him off for good, because initially it *can* cost more. If his laborers are unfamiliar with anything that varies from conventional construction, he may find himself spending more time and payroll money than he has been used to.

This often leads him to *overprice*, either to compensate himself for the first-house struggles he has gone through, or because he senses the novelty of modern design can and should command a higher builder profit. Then if the first house does not sell quickly, he tends to blame its failure on the architect's design, or on the builder's reluctance to accept modern—rather than the high price he has written.

Paper by the dozen

Some homebuilders who have been successful with good contemporary design have learned at least two things about architects:

1. A good plan is not a luxury. They do not think of an architect's fee as a tacked-on expense, but include it in their original calculations as a necessary cost, as essential and inevitable as title insurance, real-estate commissions, taxes, appraisal fees and materials and equipment from window casings to plumbing fixtures.

2. Repetition is cheap. The second house built from a plan costs far less than the first, a third house less still. With the first house behind them, construction crews can work faster and more efficiently. (As one architect puts it, "A builder should be prepared for higher initial construction costs when he goes into contemporary design, and write them off to his own and his workmen's experience.") And on the second and third houses, the fee for the original plans is gradually absorbed into a smaller and smaller cost. Thus a builder can ask lower prices that compete more directly with conventional houses of the same size, has far more trouble selling.

Contrast this with the builder who buys a "stock plan." The initial investment appears to be less, say \$25 or \$50, but seldom results in a better looking, more livable house or a better long-term reputation for the builder. And mail-order blueprints rarely provide what a good local architect can: houses tailored to the builder's particular site conditions, prospective customers and pocketbook.

What does an architect cost?

The AIA's recommended national standard for any residential work is 10% of contract price including supervision, 7½% without supervision. The Seattle average for merchant-builder work is probably about 5%, plus royalties for each repeat. (For specific working agreements, see captions, left, and following pages.)

In Seattle the smart builder who finds a good architect, works out design with him, then adheres to the plans, elevations and detailing, and refrains from adding afterthoughts during construction. Real sales features, these builders have found, lie in the intrinsic livability of the house, not in misplaced planting boxes, scallops, trellises, balustrades, wagon wheels, dove-cotes, barge boards, meaningless patches of brick, stone or tile and scattered splashes of garish colors. Here is where the architect has been able to help, by siting the houses, varying elevations, advising on decoration and color schemes, even offering limited supervision on the first house of a group.

How can an architect save a builder money? Here the Seattle story points to a number of ways:

1. *By moving his houses faster.* An architect may not always be able to give more floor space for the same price, but a good architect can give *better planned* space—space that *looks* bigger than it is, through proper use of glass areas, open ceilings, storage walls and partitions that stop short of the ceiling, flat or low-pitched roofs and horizontal facades that make a house look longer and wider inside and out. And space that *feels* bigger than it is because circulation has been studied and occupants move quickly and easily from one space to the next in their daily routines. Good plan ideas, when properly advertised and explained to prospective buyers, have meant greatly enhanced sales values, customers who stay pleased with the long-term conveniences of their houses and tell other people about it.

2. *By eliminating guesswork and conflicts* during construction. A complete set of architectural drawings, accurate to the last dimension, has led in many cases to faster erection time. By detailing every item and its exact location and giving copies of these blueprints to foremen and subcontractors, builders have eliminated much of the time wasted in figuring out everything on the job, where delays mean higher labor costs. Foundation, plumbing, wiring and roof plans that show exact location of such elements as furnace, ducts, pipes, stairs, etc. reduce the old-fashioned guess-and-fit mistakes—the type of jumble-building that often results in subcontractors falling all over each other moving studs to accommodate piping, moving piping to accommodate wiring, and so on.

3. *By designing simpler, less expensive details.* Big-volume builders who use architects usually have every stud and nail in place and cost accounted for. But in Seattle the architect has been of great help to the medium or small builder too—analyzing comparative prices of materials and equipment, planning for simpler and cheaper door and window details, ceiling construction, economical flat or low-pitched roofs, short plumbing runs, and a hundred other details.

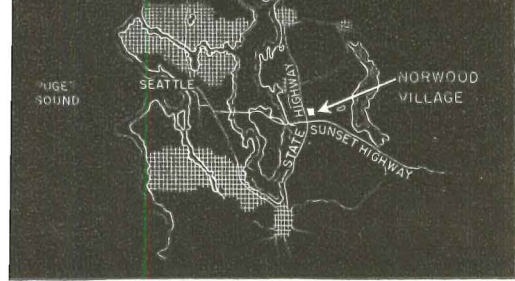
The houses on these and following pages were selected by HOUSE & HOME as outstanding examples of architect-builder teamwork with the assistance and recommendations of a special committee of the Washington State Chapter, AIA.

1 Some 80 of architect Benjamin McAdoo's \$7,500 economy houses have been built in Seattle area. Architect's fee: 7%; \$50 per reuse.

2 Street of 12 different \$19,000-\$23,000 homes by architect Roger Gotteland for Edwin Edwards, builder. Fee: \$7 per hr. (about 5% per design) for detailed drawings, site planning, limited supervision.

3 One of several \$16,500 houses by Gugeler Const. Co. Architect's Mithun & Nesland's fee: \$560, incl. limited supervision; \$100 reuse.

4 \$19,500 hillside house by architect Ira Cummings for builder I. K. Strathy. Flat fee was under 5% of contract cost; \$50 per repeat.



NORWOOD VILLAGE—built by team

SEATTLE

Two top design firms and a homebuilder give a veterans' co-op venture clean design, good land planning and low costs

One of the finest architect-designed developments in the Seattle area is Norwood Village. Here is a case in point showing that the best possible housebuilding combination is good design plus skilled merchant building methods.

To the Seattle architectural firms of Chiarelli & Kirk and Bassetti & Morse was given the assignment to design 40-odd houses with individual features, without making each house into a custom job.

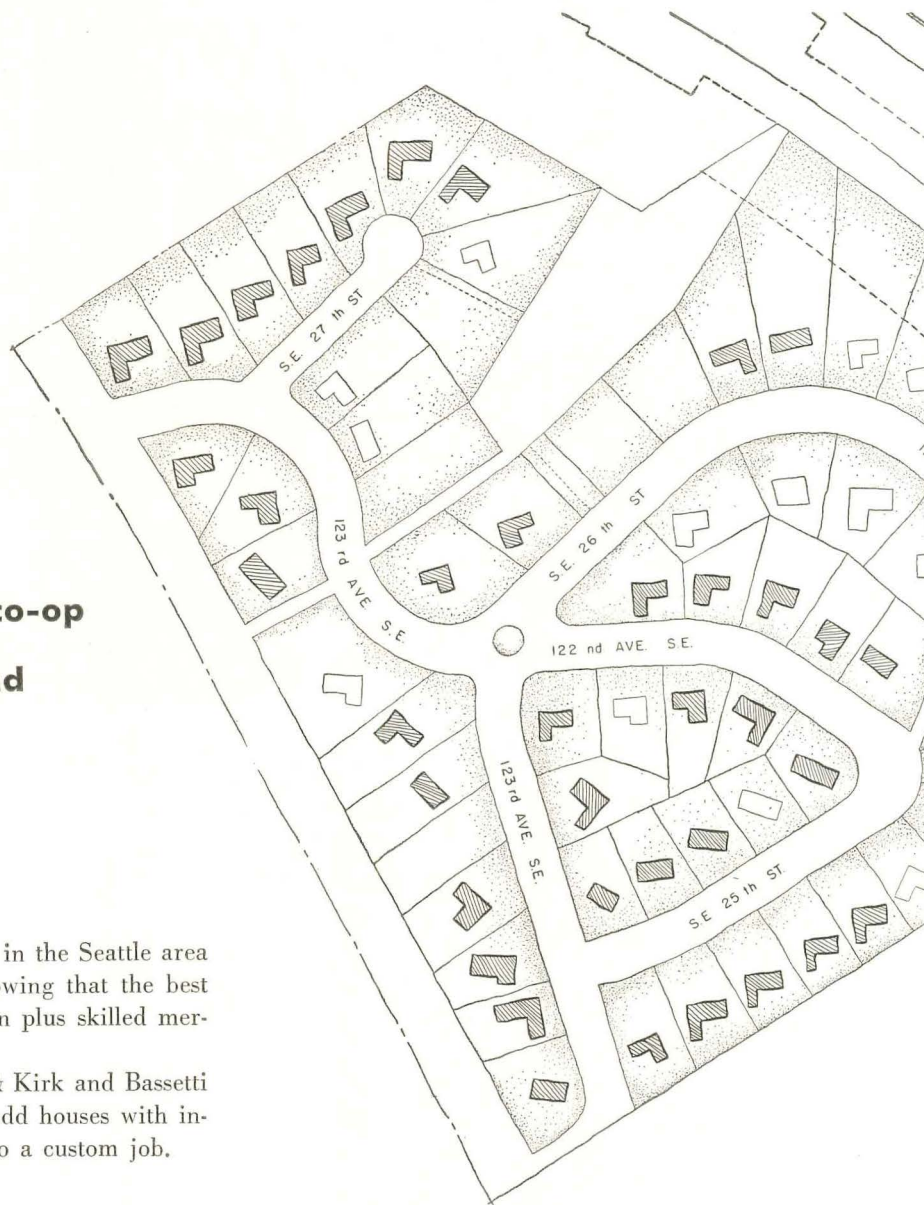
Other requirements:

1. Make the houses fit an awkward, sloping site whose long suit was a breath-taking view of lake and mountains;
2. Keep the costs in the \$10,000-\$14,000 bracket;
3. Provide the simplicity and clean design that would make production building easy and efficient.

Prizewinner

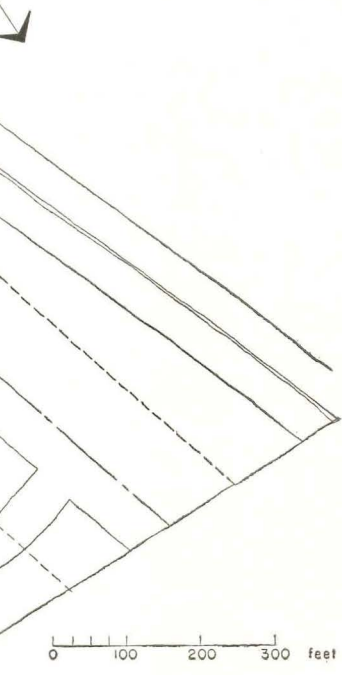
Norwood Village got even more from the two architectural teams than the usual good Northwest house with its easy, warm use of native wood construction, low sprawling roof lines and wide overhangs, and its excellent fenestration. As an extra, the buyers got crisp elevations and thought-out floor plans that won approval from the Southwest Research Institute. Among the outstanding features of these houses are:

- ▶ Living, dining and kitchen space all facing the view side;
- ▶ Spacious balconies, cantilevered out from the living room and sheltered by overhanging roofs;
- ▶ Built-in storage closets or cabinets in every room in each house;
- ▶ Proper orientation on quarter-acre lots that permits every house to look over and past its neighbors to Lake Washington and the surrounding foothills. (See photograph opposite.)



Entire site overlooks Lake Washington, with Seattle on far side of the lake. Evergreens and most second-growth trees were saved to reduce landscaping and minimize "raw" look common in new projects. Though most houses were built with VA loans, FHA subdivision approval was granted this summer.

LOCATION: Seattle, Wash.
MARELLI & KIRK and BASSETTI & MORSE, architects
G. WELDON GWINN, contractor
GARDNER & HITCHINGS, land planning



Children's play area is easily supervised from upstairs or down

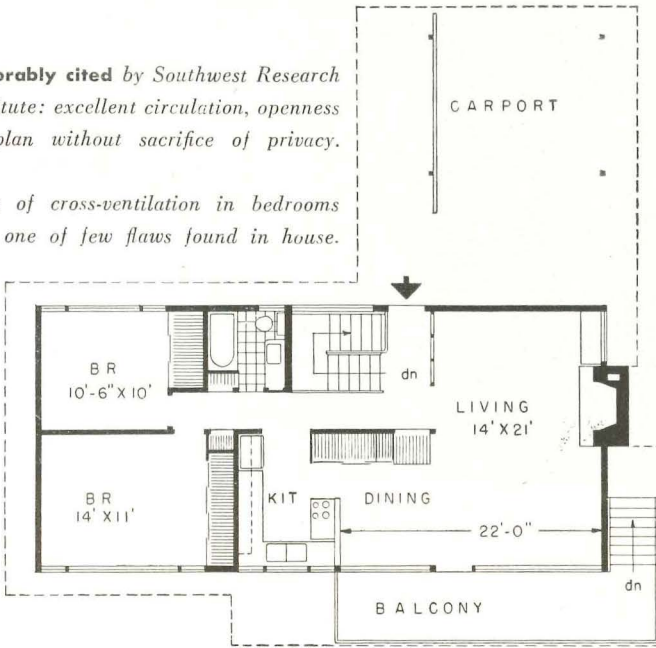
Photos: Chas. R. Pearson





Favorably cited by Southwest Research Institute: excellent circulation, openness of plan without sacrifice of privacy.

Lack of cross-ventilation in bedrooms was one of few flaws found in house.



The site and improvements

Builder C. Weldon Gwinn was selected by the Veterans Mutual Building Association (owners of the land) to construct the Norwood Village houses. To the site of 30 acres, nine miles from downtown Seattle, a neighbor donated 20 adjacent acres. It was raw land, steeply pitched, and the association members assumed the expense of proving the land, which amounted to \$350 for each site.

To compensate Gwinn for building the houses at a fixed price (contracts were signed two days before Korea), which meant a profit (\$900) per house, the Association gave him 24 lots in Norwood Village and the 20-acre unplotted section as part of his

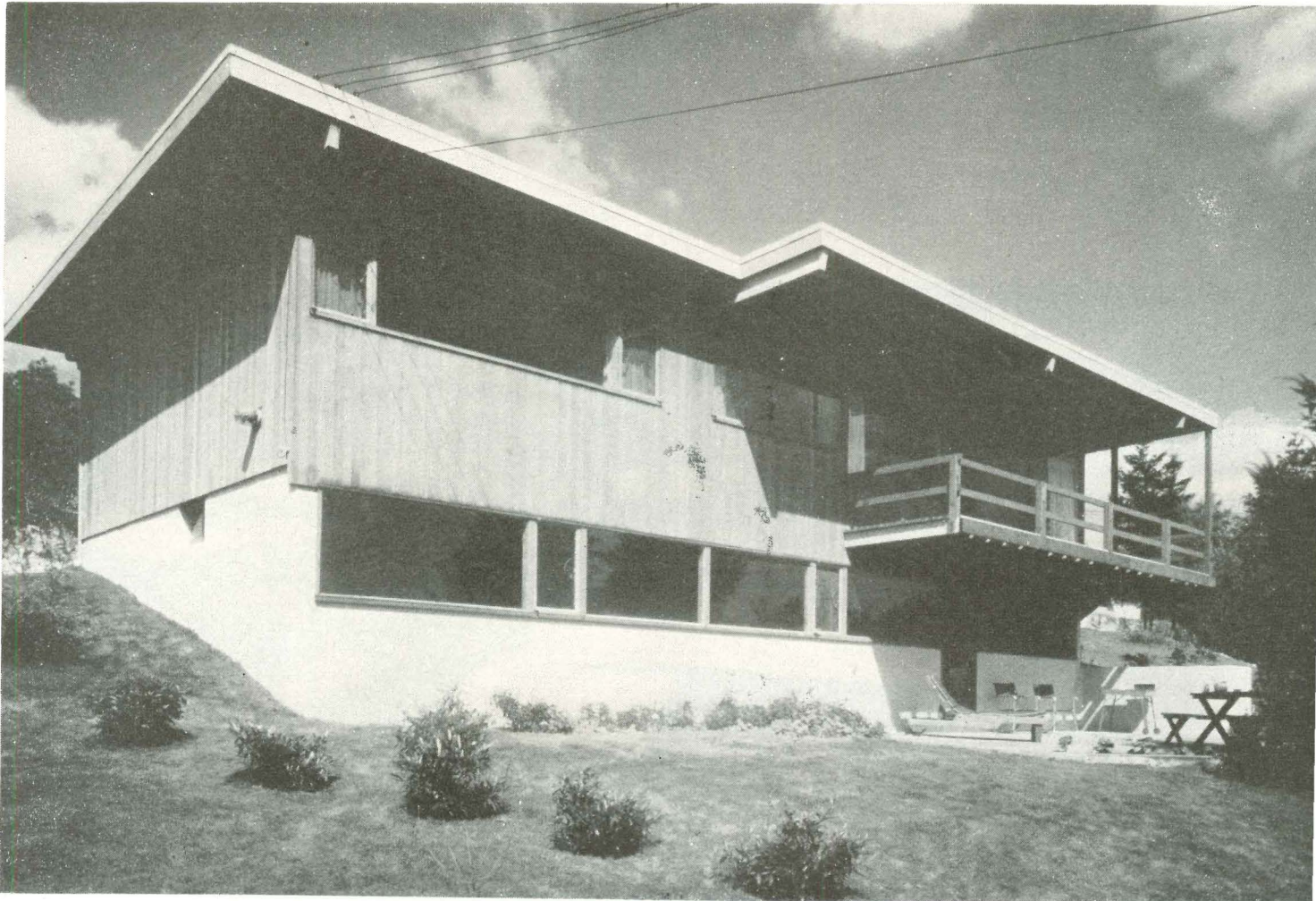
Too many changes

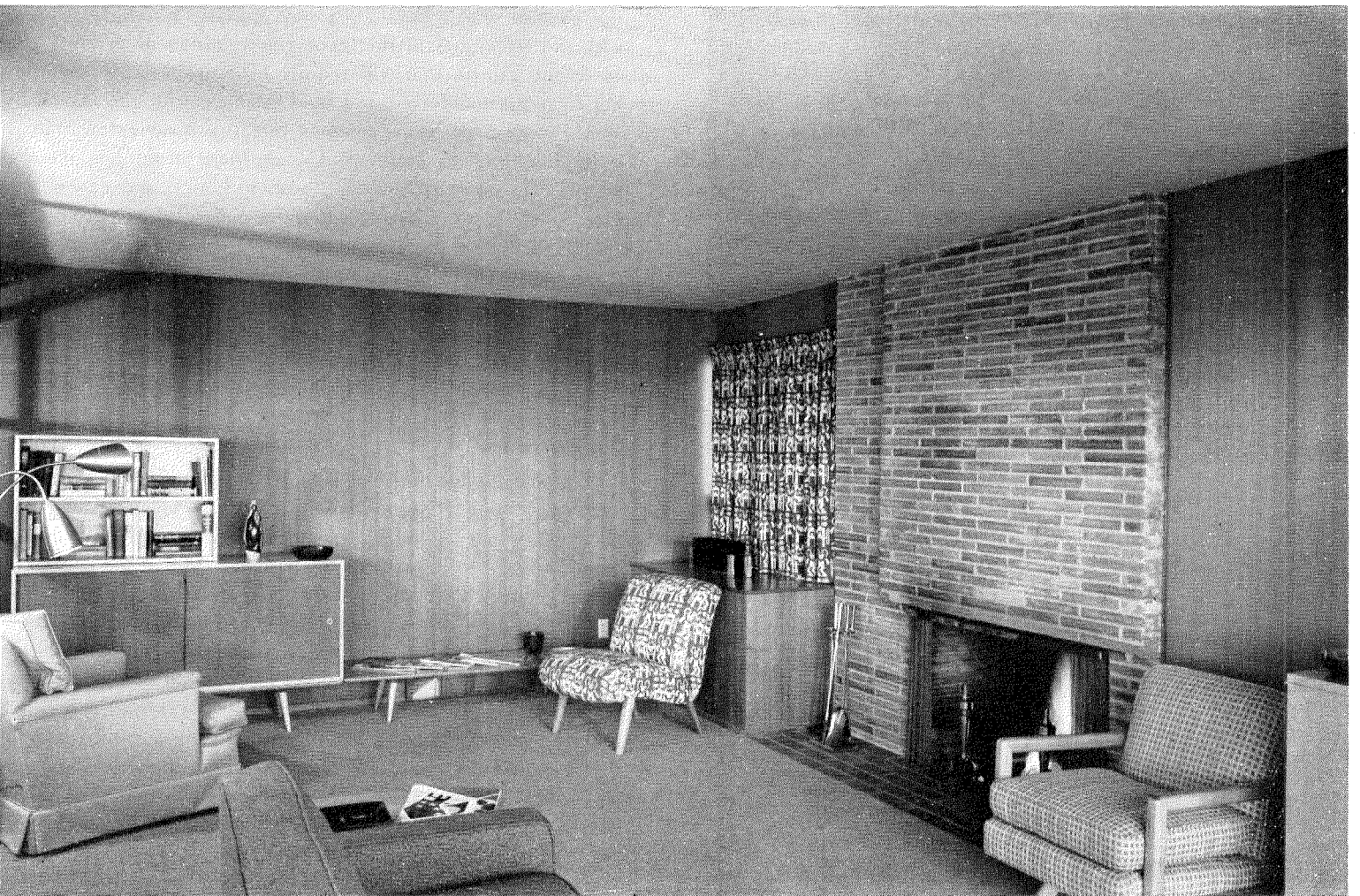
Gwinn thinks the biggest mistake made by the planners of Norwood Village was the permission granted each buyer to make a large number of changes in the house if he so desired. As a result, Gwinn was never able to "freeze" the design, so each job was a custom job at a production price. Too often the changes were verbal or informal and the payment left undecided or vague. Basement rough-ins for \$80, roughed-in plumbing for \$120 are examples of details that proved overwhelming to Gwinn.

"Now all changes require a written order and payment in advance. With plenty of completed houses for prospects to see, they can include the changes they want in the original contract, which is better for both buyer and builder."

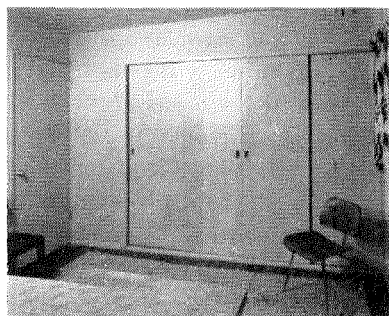
Don't waste your site

Faced with a sloping site for every house, the architects decided to put it to work by making basements into well-lighted living spaces through the use of picture windows and doors leading directly

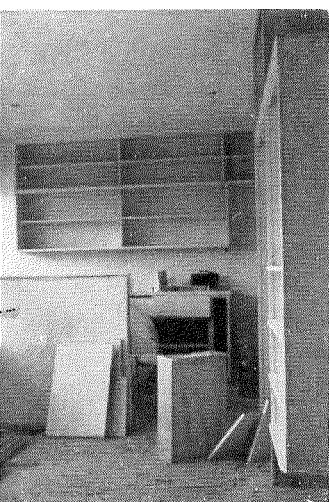




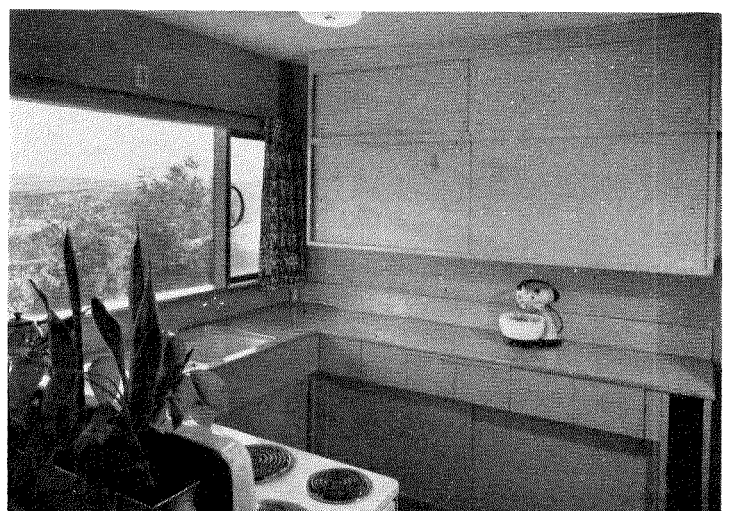
Focal point of 14'-6" x 22' living room is Roman brick fireplace. Woodbox beyond matches wall paneling, and its finished top permits use as an end table. Room is separated from entry hall by screen formed from 2 x 2's.

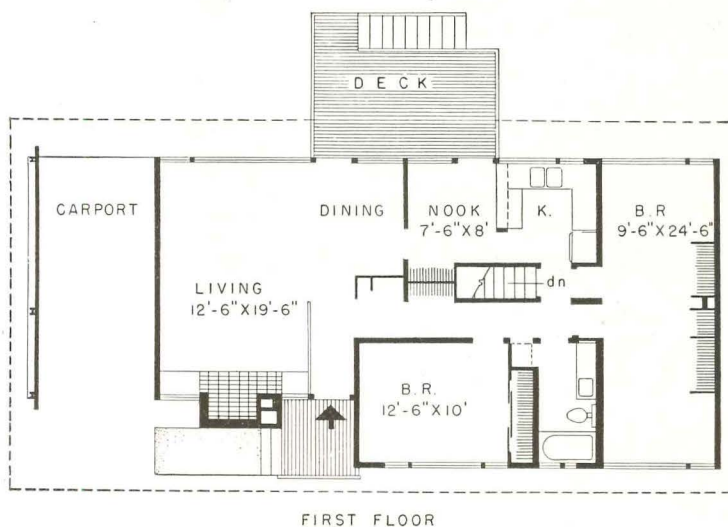


Kitchen, like other "daytime" rooms, has handsome view, is divided from dining area by 3'-6" high wall. Project was delayed, and materials shortages developed, because construction contracts were signed just two days before Korea.

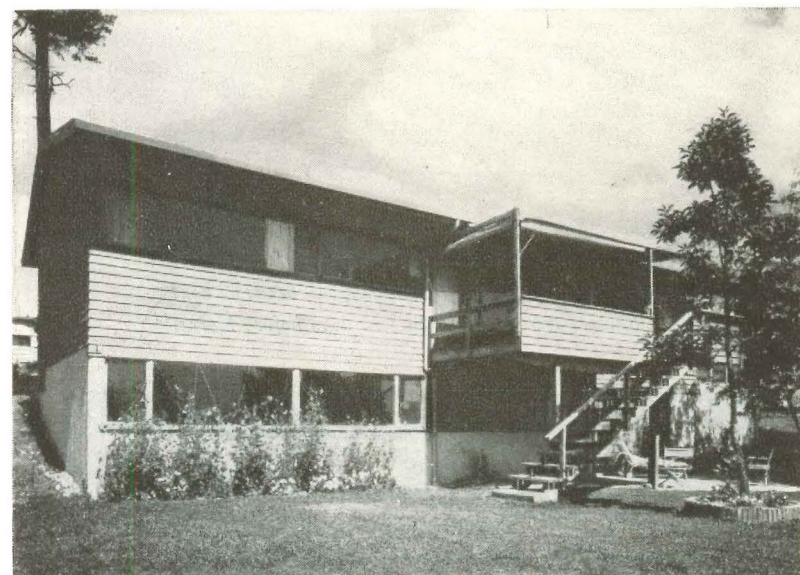


Built-in cabinets and closets have hardwood sliding doors. Free-standing coat closet adds openness to dining area.





FIRST FLOOR



Slightly pitched roofs proved more popular than flat tops. Builder Gwinn estimates only half of prospects liked roofs without any pitch. Long roof timbers (22') were one of worst bottlenecks, now are cut from specially long logs.

the garden. Each house is placed on an "island" of cleared with the remainder of the quarter-acre left in its original wild of second growth that will require little upkeep. By keeping a hand on the bulldozing and land displacement, the architects minimized erosion problems common to rainy Washington State.

In designing the houses and siting them on the lots, the architects made every effort to have the "waking hours" zones face out on the view side. In addition, spacious balconies jut out from the upper floors, sheltering the ground-floor picture windows, and in turn protected by the wide (up to 6') roof overhang.

So that the houses would be built on the lots for which they were best suited, buyers were given a limited selection of sites, dependent on which plan they had chosen. Buyers were not allowed to purchase any house on any lot.

Future room

The basements are finished in only one of the models, but a perimeter warm-air heat system is laid in the basement slab in addition to the outlets in each room. Laundry facilities, stairway and heating plant are kept to the rear of the basement so that the entire view may be finished off into additional living space.

Storage and cabinet space, often short in builders' houses, is provided generously. Through an ingenious detail of sliding board doors which run on tracks of round-headed tacks, the architects were able to keep down the cost of this storage space. Cabinets and closets were finished to simulate built-in furniture and serve as dividers between rooms. Woodboxes beside fireplaces are given a finished top to serve as occasional tables. Kitchen counters and shelves are of white-painted plywood, with black hardboard doors, and metal-lined drawers and vegetable bins.

The perimeter heating will eliminate one drawback of large scale fenestration—the condensation that plagues most floor-to-ceiling windows. Registers near outside walls will wash a steady current of warm air across the glass to act as a defroster.

Teamwork

Norwood Village consists of 50 houses, 34 built for Veterans Mutual Building Assn. and 16 built and sold by Gwinn to others. The value of the architects as the cohesive force in the builder-customer-architect set-up is acknowledged by Gwinn and VMBA. Says Gwinn:

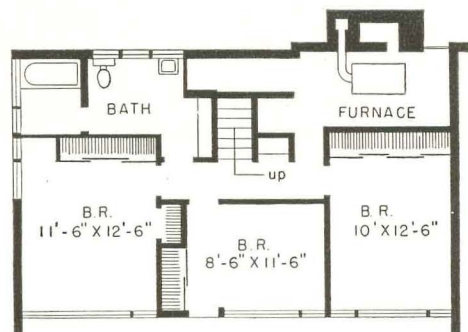
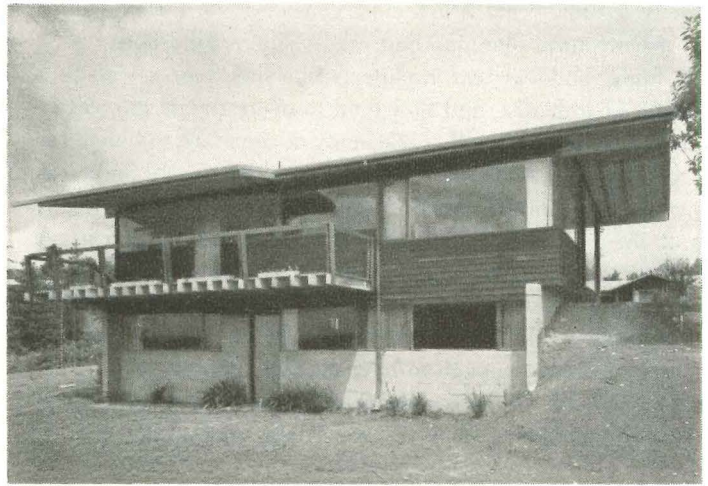
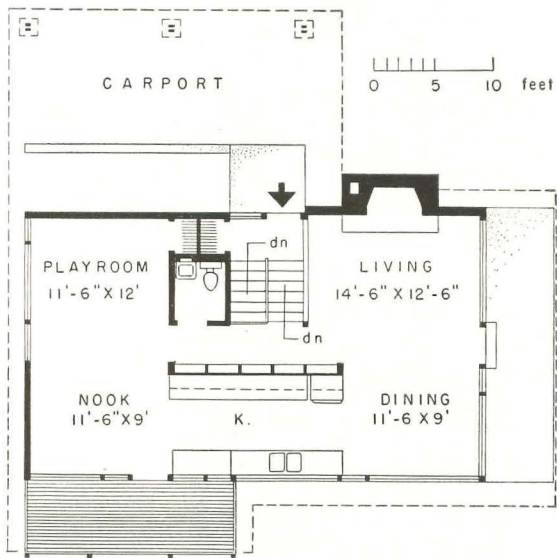
"The architects gave valuable service on this job. They showed up at the start of every job and located the houses on the irregular lots and gave us the grade to work to. They also gave on-the-spot help in many details. They were of especial value in explaining the details to the owners."

The president of VMBA echoes Gwinn's praise:

"We only regret that the drop from 58 to 34 houses made it impossible to have full-time architectural supervision. The architects in many cases were able to make necessary changes that facilitated the contractor's work."

Professional planning, good results

The architects were to have received a 4% fee for their work, but allocated on an estimated total building investment of \$1 million, but the reduced program cut the fee to \$14,195, and eliminated a full-time resident supervisor. Later in the program, when the money ran out, the VMBA voted \$1,500 for additional limited supervision. Each owner's share of the architectural costs was included in the builder in the contract price. By sticking hard and fast to the services of trained architects and land planners, by utilizing the services of a merchant builder, and by capitalizing on the financial advantage of experienced mortgage men, Norwood Village has turned a brush-grown hillside into one of the Northwest's outstanding residential communities.



BASEMENT

room plan was three-to-one favorite because of large floor space available for future expansion. All carports are on level, with entry directly into main living quarters. One (above) was finished with all bedrooms on lower floor.

BIG BUILDER

Albert Balch and his architects show 17 years of design progress



Constant experiment and progressively better house designs have paid off for Albert Balch, one of the Northwest's biggest volume homebuilders. His architect-designed houses have not only been among Seattle's best sellers, but they have netted him an officeful of awards and widespread

publicity in local and national press.

Since he first ventured into building in 1935, Balch has authored some 3,500 houses and ten of Seattle's biggest subdivisions under various partnerships. He has engaged a handful of different architects to help him bring out a new house "crop" almost every year.

His first big project, Wedgwood (1941), was the Northwest's first 200-home development and according to national FHA officials the "finest medium-priced community" they had financed up to that time. Subsequent houses (*right*) illustrate Balch's successful efforts to keep up to date or a little ahead of the field. His philosophy:

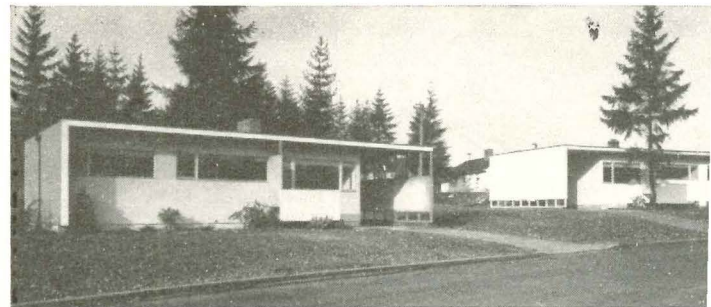
"What people were satisfied with last year won't necessarily sell this year. Much more consideration must be given to architectural planning and subdivision engineering.

"Some builders fear architects like they fear a visit to a doctor or a dentist, and they tend to overestimate the cost of architectural service. I think many of them are to blame for trying to get something too cheap—which is the most expensive thing in the world. An architect can save you money, and the best architect is the cheapest in the long run. A builder needs complete plans and details so that carpenters and subcontractors don't waste valuable time figuring out everything on the job, guessing and fitting. Builders seldom pay an architect enough to have all these details planned beforehand. On the other hand, architects often don't know enough themselves about these details and about how a builder operates. And some architects have a tendency to get too far ahead in design, with the public far behind."

Balch has a civil engineer on his payroll to lay out subdivisions on curvilinear contours, plan the lots and then get his architect to site the houses on them. He saves the trees but says it costs him more to build among them. If FHA and VA would give more credit for this type of good site planning and architecture, says Balch, other builders would scramble to put out a better product.

Balch's working agreements with his architects vary. He paid Chiarelli & Kirk \$650, or about 6½%, to develop plans for the \$9,900 house (*picture, right center*) which won a Revere Quality award in 1949, agreed on \$50 for each repeat. On other houses he has paid his architect double the cost of drawings plus \$25 per house, and for two years had an architect working on his own payroll. Next year Balch plans to build the \$12,000-\$14,000 houses pictured in drawings *opposite*, has invested several thousand dollars in designs by other architects which are now ready for test.

Balch's prewar houses, of standard suburban style, showed steady improvement.



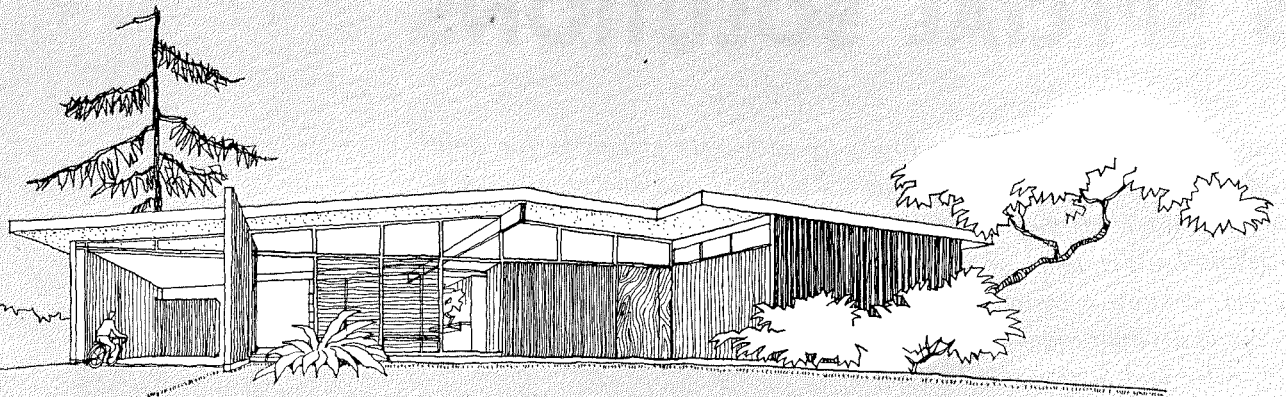
1949 pilot models won design awards but were too advanced at the time for popular success.



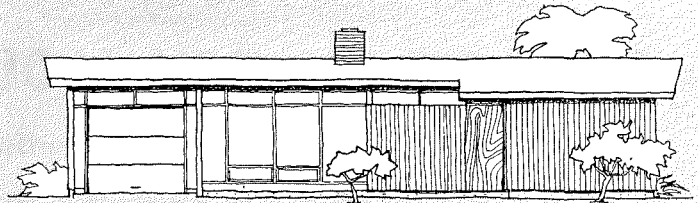
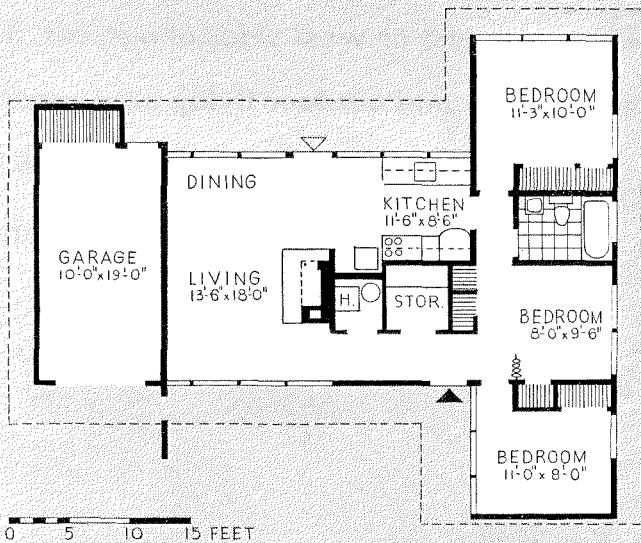
Stock-in-trade for three years: \$7.20 variation of this house by John for "Park Ave." t

Photos: A. E. Haug; Brown; Dcarborn LIFE—Pearson





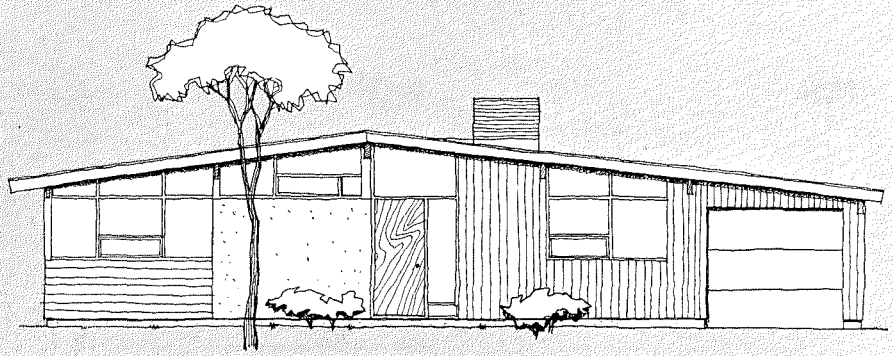
Perspective from street side



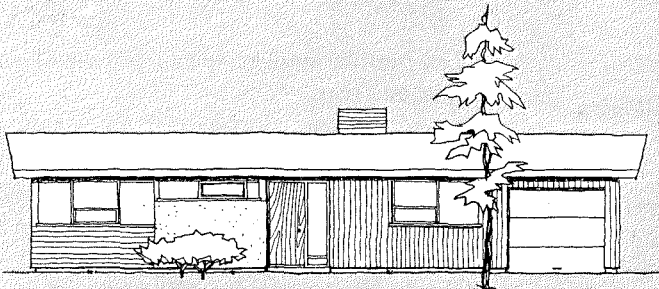
Alternate front elevation

Balch's 1953 houses, next experimental project, were designed by John Ridley, architect for many of Balch's previous homes. "C" type (above, plan left) has 1,060 sq. ft. plus attached garage. Bedroom wing is well cross-ventilated and separate from noise of living areas. Open plan uses workable central service core, "through" living room with front and rear windows. Alternate for hill lots has stairs in core leading to daylight basement.

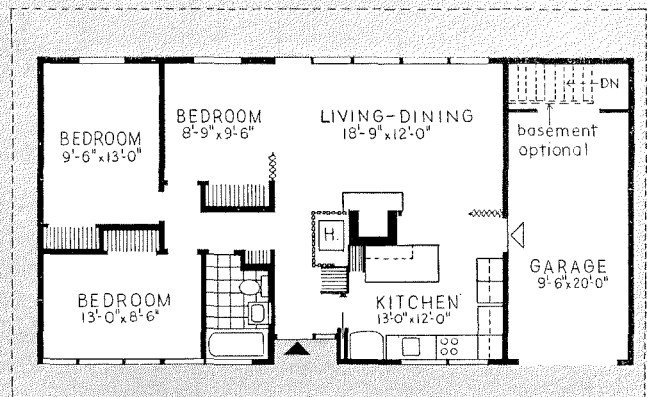
"M" type (at right and below) has three bedrooms, simple rectangular plan of 940 sq. ft. plus garage. Plan features include covered entry, separate front hall, front kitchen convenient to main and garage doors. Core dividing communal space into separate use-areas groups heater and fireplace around same flue. Both living and dining spaces face toward rear of lot where they can get sun and view of private garden. Prices of "C" and "M" houses will be between \$12,000-\$14,000.



Front elevation with gable end toward street



Alternate front elevation



0 5 10 15 FEET

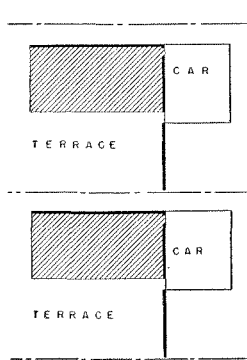
6 SPECIAL SOLUTIONS

These Seattle houses were developed by architects primarily for small builders to answer problems of special markets and special site conditions. But the ideas they incorporate could be adapted by any architect-merchant-builder team as convincing sales features to offer their own market: variety, economy, privacy, outdoor living, orientation for sun, breeze and view; ingenious floor planning; richness and simplicity of line, color and texture.

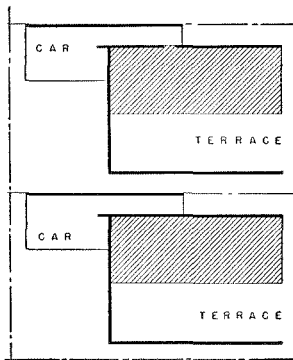
1. THE LOT-LENGTH HOUSE—on east or west sides of a street, a building can offer both privacy and outdoor living on a narrow lot by placing houses along the north lot line and opening them to a big side yard on the south.

These two medium-priced houses were both architect-designed to get the most out of narrow 50' x 100' city lots fronting on north-south streets. Both are easily adaptable to east or west, even north or south sides of a street. In each case they offer:

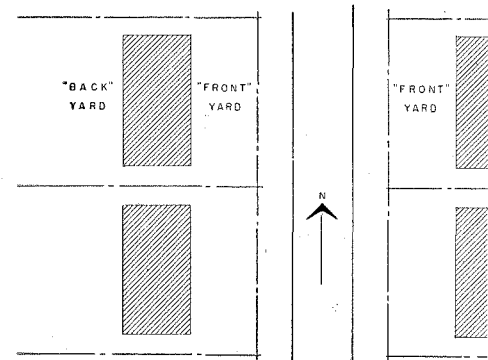
this



or this

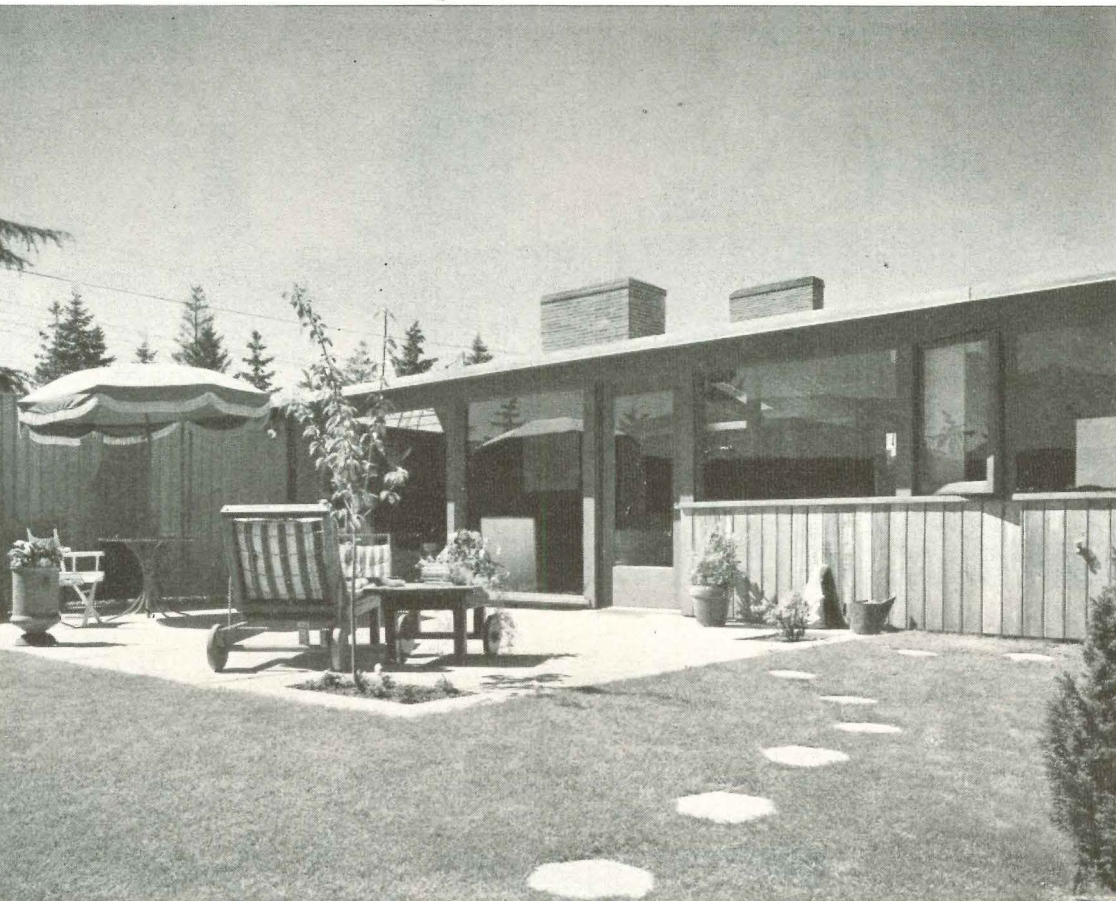


instead of this



- ▶ More usable outdoor space: *one big side yard.*
- ▶ More privacy, by using 1) the house itself as a “fence” to shield one side of the yard, 2) an almost windowless wall toward the adjoining house on the north, 3) carport screening house from street, 4) properly placed fences. (These sight and wind barriers indicated by heavy lines in sketch above.)
- ▶ More sun and breeze—both outdoor area and important rooms (living, dining, kitchen, bedroom) face south for winter sun, summer breeze. Length of house shields terrace from north winter winds.
- ▶ Larger-looking lots—houses are farther apart.

- ▶ Less usable outdoor space: two small yards, front, one rear.
- ▶ Little privacy—unless full fencing is installed, rear yards become one long row of clothes and other people’s family activity. Living-room “picture windows,” often on the front in standard tract houses, see only passing autos. End wall windows look into neighbors’ windows.
- ▶ No orientation for breeze in summer, sun in winter.
- ▶ Smaller-looking lots—placed across lot, houses nearly touch each other, give monotonous illustration of row housing.

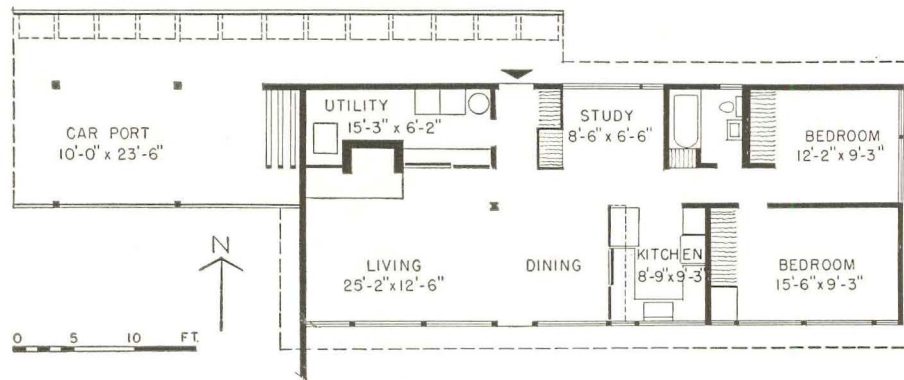
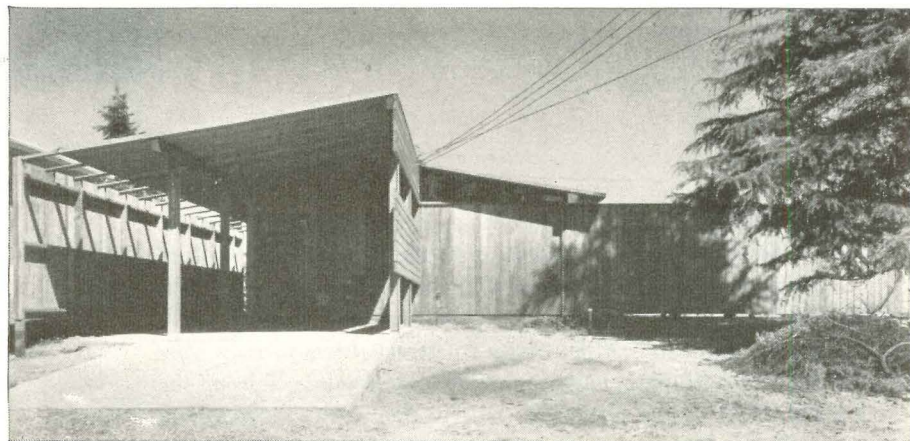


Whole south side of house—living, dining, kitchen, master bedroom—opens to sun and breeze of big side-yard terrace. High fence, left, screens outdoor area from street.

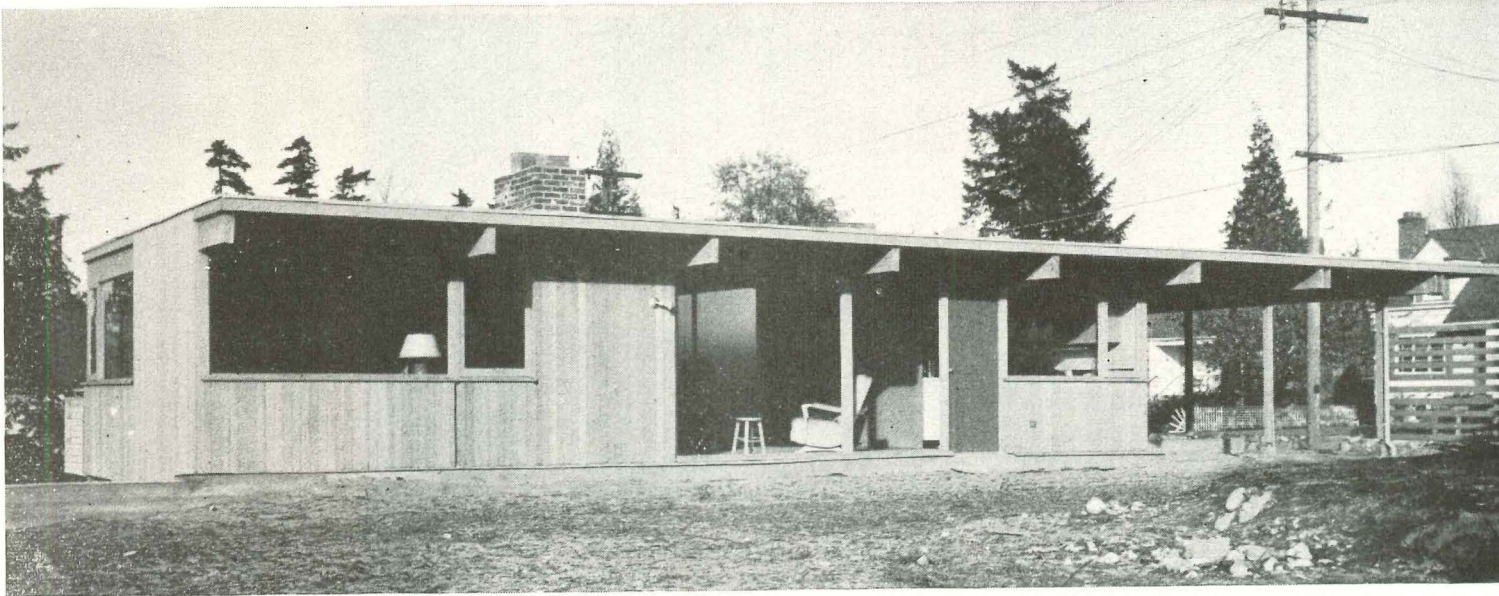
L. H. KIRK, architect
 LIAM R. CROYLE, builder

side-yard house enclosing approximately 1,000 sq. ft. (with carport) was designed expressly for speculative sale at \$15,500. Its side entry, protected by a high fence placed directly on the north lot line, means a longer walk to the front door and kitchen, but direct access to all rooms without going through the living room. Important rooms face south to a fenced-in terrace, less important rooms are placed along the north side of the plan with high windows or none at all. The street facade has only a strip of glass under the eaves.

Construction: standard stud walls with sheathing and 4" T & G siding outside, plasterboard inside. Carport and low-pitched roof are of 2" x 6" T & G lumber, the roof is covered with 2" of rigid insulation, tar and gravel roofing. Architect Kirk worked with builder Croyle on an hourly basis to develop plans, elevations and details, guaranteed total architect's fee would not exceed 5% of construction cost. At \$7.50 per hr., this fee came to \$390 for the first year without supervision, plus \$50 for each reuse of the plan.



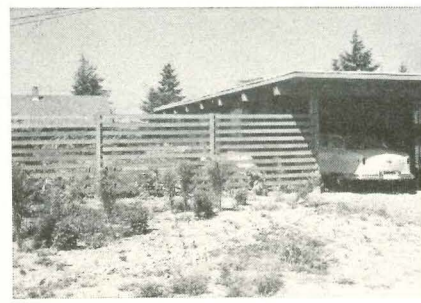
On street side, above, up-front carport shortens driveway paving; lot-line fence shields carport and entry. Siding goes up to high gable window, cutting out thoroughfare and hot west sun, continues as fence, right, for outdoor terrace. Plan relegates secondary rooms to north side.



This lot-length house, built on west side of street, has its principal rooms facing south to a big garden patio.

BASSETTI & MORSE, architects,
 WENDELL H. LOVETT, associate
 EMMETT LARSON, builder

View from entry, below, shows open plan, exposed beam-plank ceiling.

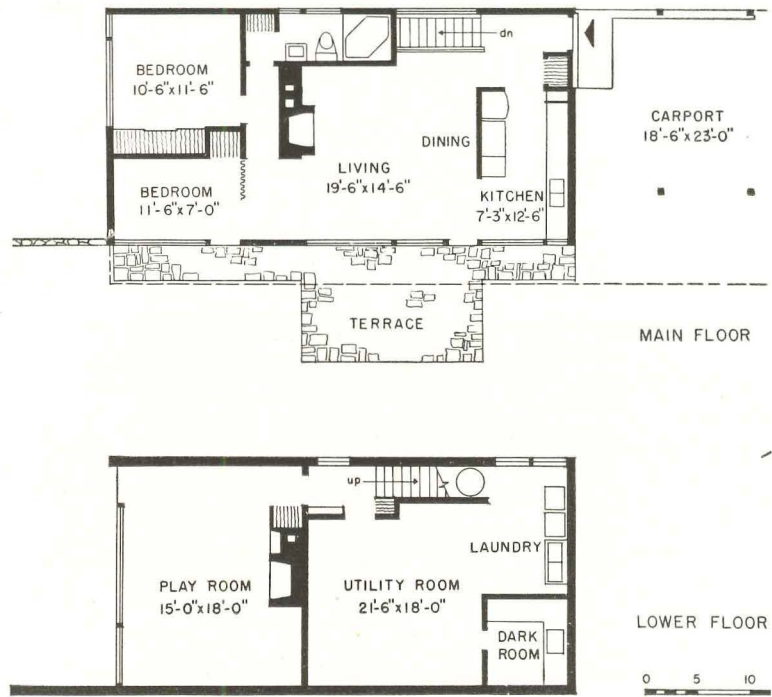


Modular bays extend to form carport sheltered entrance on street. Fence at shields outdoor living area. Sloping site m windowed basement possible (plan, below)

What this moderately priced house lacks in size (720 sq. ft. of main floor area) it makes up in the extra livability of an open interior plan, generous glass areas that face south to a large private garden. Note its plan features: carport, blank kitchen wall and garden fence for street privacy; only high bathroom windows and a panel of obscure glass lighting the stair well on the neighbor's side to the north; kitchen convenient to entry and car. A folding partition opens to convert the smaller bedroom into a study and increase the apparent size of the living area. On this particular city lot, a 9' drop in grade toward the rear and side allowed a full and windowed basement of 720 sq. ft.

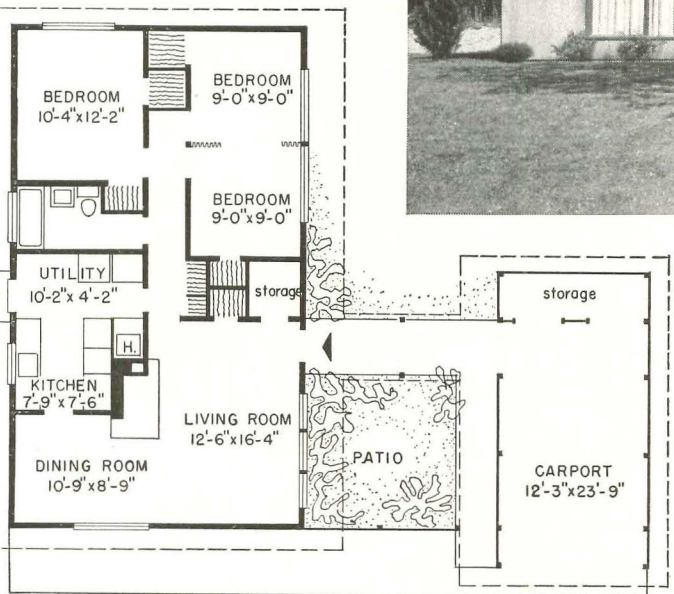
The plan is as long a rectangle as FHA and city setback requirements would permit. Its advantages obviously increase as it is repeated on several lots adjacent to each other, guaranteeing uniform privacy for all. Note to appraisers and local authorities: minimum setback requirements might be relaxed to permit carports closer to streets when there is assurance that several houses of this type are to be built in a row.

Contracted for \$10,600 (excluding standard architect's fee), this model was planned on a 7'-6" module (increasing to 8' in the two rear bays), built of standard stud frame with siding and plasterboard. The flat roof is of wide-spaced 4" x 14" beams and 2" planks exposed in the ceiling.

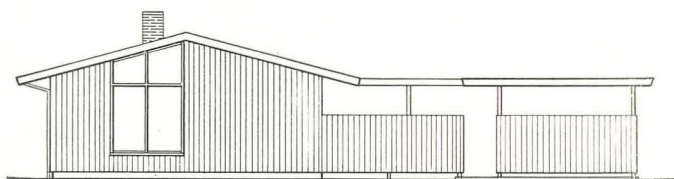




0 5 10 FT.



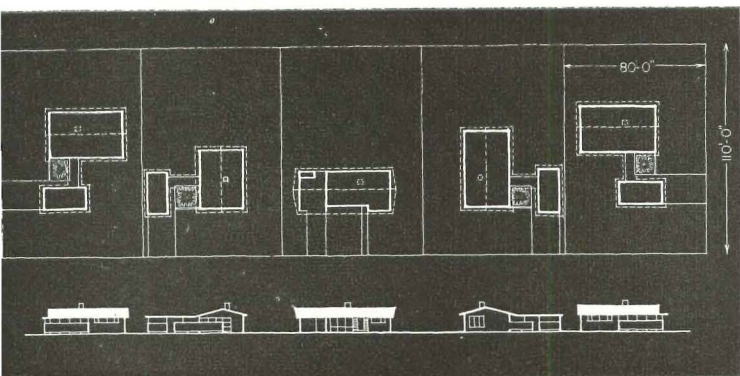
Separating house and garage allowed sun terrace between. In an effort to "dramatize" outdoor living, builder altered architect's concept (below) with brick wall, barbecue and chimney succeeded only in destroying the design unity of the facade.



2. THE FRONT PATIO HOUSE offers buyers a living room with private sun court instead of a streetside "picture window"

ROBERT L. DURHAM & associates, architects
HEBB & NARODICK CONSTRUCTION CO., builders

reversing plan and changing placement of house on lot, architect achieved genuine variety in street elevations.

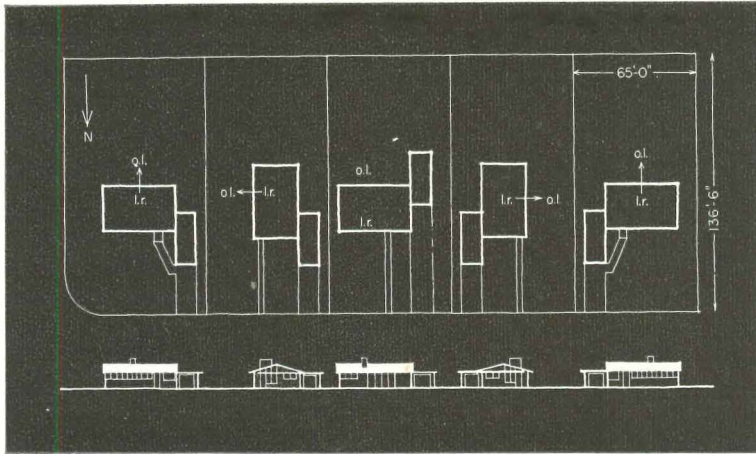


On the *north* (or *south*) sides of a street, a builder can provide a south-facing outdoor area behind a street fence, and a living room that doesn't have to face the street to get south sun and breeze. These five \$13,500 homes show how the architect gave the builder a variety of street elevations by turning and reversing a basic plan. In all but one, the garage was arranged at a distance of 16' or more from the house and the open space fenced across to provide a sheltered area for outdoor living. Living rooms face their glass walls *away* from the street and onto this private terrace.

Architect Durham received \$150 per house for drawings, some detailing, no supervision. Royalties will be \$75 per house if the designs are used in a volume project.

3. THE VARIABLE HOUSE: five different houses from the same plan

ARNOLD G. GANGNES, architect
BUCKLEY B. ARENSBERG, builder



One plan, pivoted and reversed: five houses. Outdoor living areas ("o.l.") face south; all but one are directly off living rooms ("l.r.").

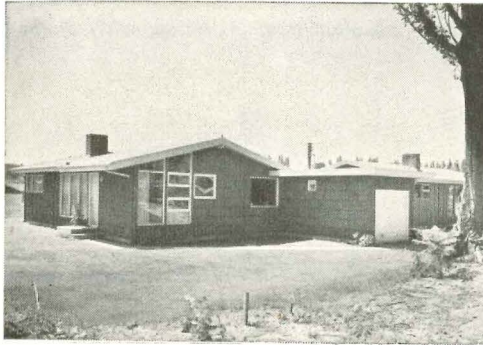
In sharp contrast with drab, straight rows of homes identical in both plan and facade, these houses present five different faces to the street. Yet all have the same floor plan, with minor variations in the placement of the front door.

In effect, this has meant to the builder five plans for the price of one. Rather than buy a stock plan and attempt to dress it up with a variety of exterior ornamentation, builder Arensberg asked architect Gangnes to develop a basic plan flexible enough to permit a variety of placement on the lot. Further, he retained the architect to draw up each of the five alternates and site them properly along the street.

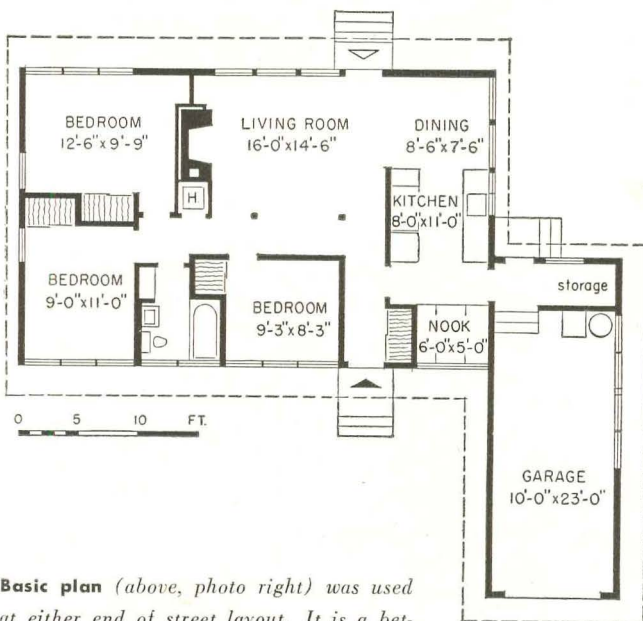
For development of the first \$11,500 house (36 planned in the subdivision), the architect's fee amounted to \$500 at a \$7.50 hourly rate. Charge for the four variations, \$25 each, plus drafting time.

The architect saved the builder money by 1) complete and clearly drawn plans which permitted crews to work fast; 2) simpler, cheaper window detailing, 3) open ceilings that follow the roof slope, eliminate the added labor and material of furred-down flat ceilings.

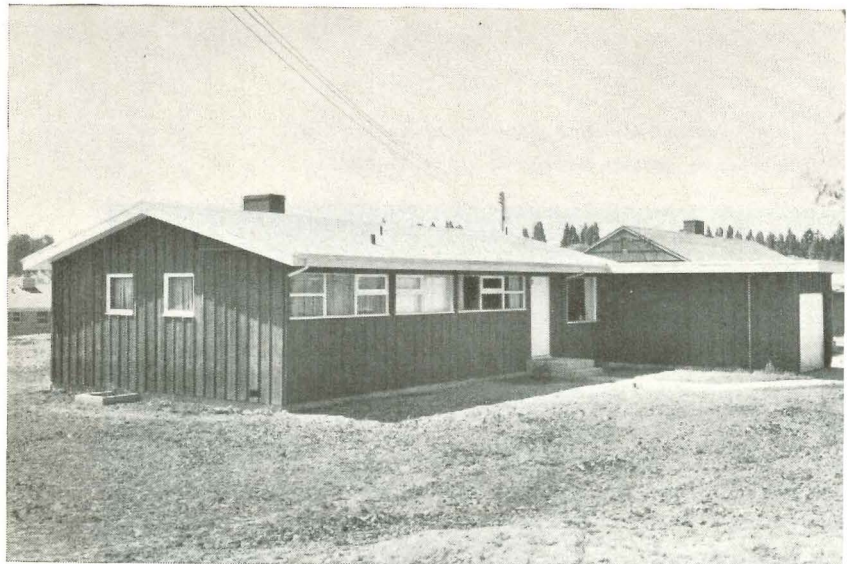
One variation (second from left in street layout above) places dining-kitchen end toward street, rearranges garage. Basic plan's rear door becomes main entry.

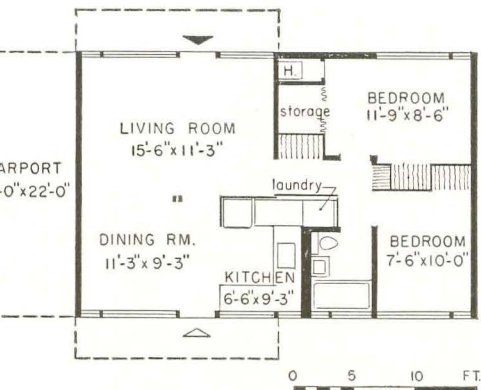


Another variation (middle lot on street) reverses basic plan for buyer who likes front living room. Garage moves back to front dining-kitchen windows.



Basic plan (above, photo right) was used at either end of street layout. It is a better floor plan than its variations, has separate entry hall, garage access and hidden service entry linked to kitchen under cover, living-dining areas facing directly south on a private garden at the rear.





Reversible plan permits main entry on kitchen (above) or living room sides

THE LOW-COST HOUSE sells to a large special market:

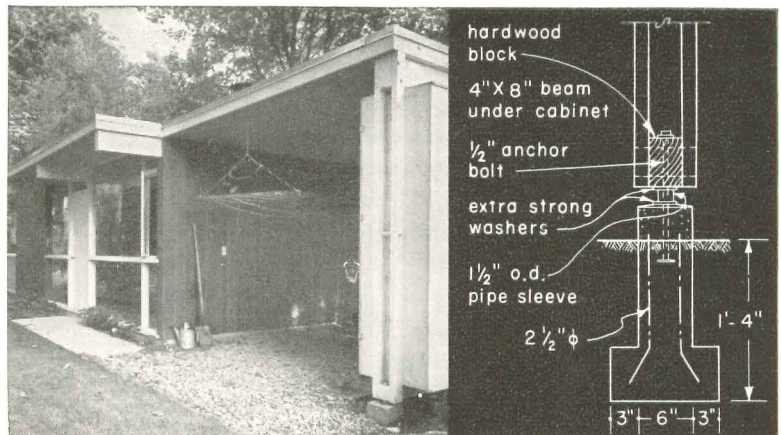
and moderate-income families

ETTI & MORSE, architects

CALDWELL, builder

g the most advanced, low-cost builders' houses in the area is this compact (704 sq. ft. plus carport) pilot which sold recently for \$8,500, including improved range, clothes washer and dryer, table-top hot-water freestanding fireplace. Builder Caldwell is breaking and for more houses of the same type in both two- and bedroom versions. Architect's fee: 7½% of contract of first house for developing plans, elevations and de-\$35 royalty for each repeat.

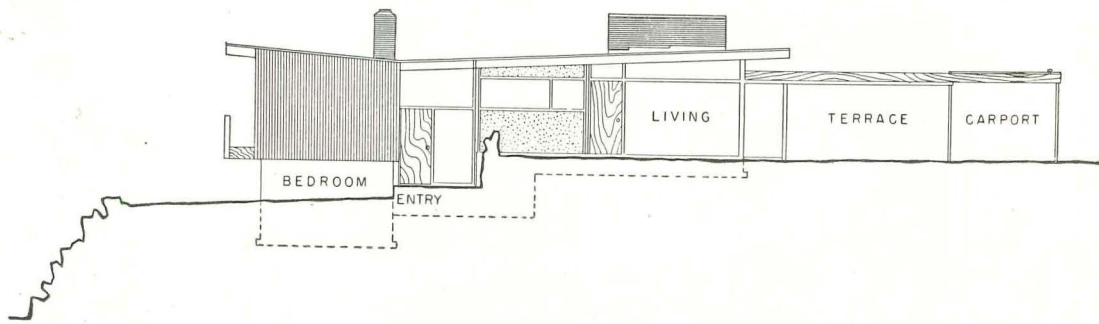
plan is reversible, so that either kitchen or living area the street. Other design highlights: the roof is carried end walls (which are windowless for privacy) and on 4" x 10" ceiling beams, 8' o.c., which are left exposed v. The 22' span is supported near the center by the or partitions and in the living room by a double " post. Construction economies: A flat roof and mod-lanning on 8' bays meant simpler framing—and could far less labor costs on a group of houses once con-on crews became used to it. Since much of the struc-s exposed, however, careful workmanship, constant ment of wall and roof members are necessary. Other utters: a 4" slab floor on gravel instead of joists and space; kitchen and bathroom plumbing set back to or shorter plumbing runs. Heating: 8" ducts imbedded slab radiate out from furnace (in separate bedroom to perimeter registers which give instant warm air large glass areas. Insulation: 1½" between tar and roof and ceiling of 2" x 6" T & G planks.



Pinile and beam keep carport storage wall off ground, rot- and verminproof

Living room: beam ceiling, cedar-plank and glass walls, \$62 iron fireplace





ARNOLD G. GANGNES, architect
WILLIAM KIPPLE, builder

5. THE PROBLEM-LOT HOUSE

gets an architect's attention to solve a combination of site difficulties

The site which confronted the builders of this house unhappily combined several of the special problems that a small, scattered-lot builder is apt to encounter. First of all, it was

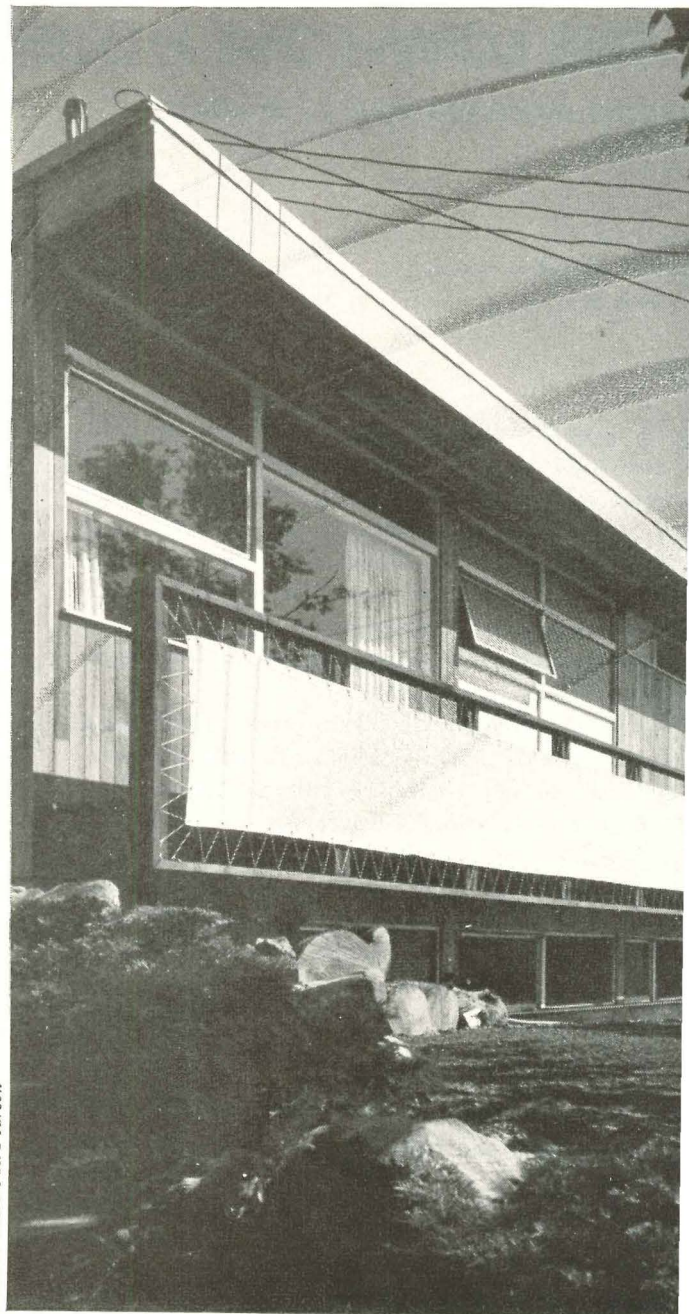
- ▶ a narrow lot (50' x 100'), too small to accommodate most houses, particularly one of the size proposed. And
- ▶ a steep lot, sloping sharply in two directions—a 27' rise from the corner at the street intersection to the back corner diagonally opposite. It had the drawbacks of
- ▶ a corner lot: deep, space-consuming setback requirements on two sides; and it was
- ▶ a poorly oriented lot; where could one put big windows and an outdoor living area to get view, south sun and summer breeze, and still have privacy?

The architect's solution shows how each of these problems can be solved. The long axis of the house is parallel to the lot's long dimension to use the limited site space to full advantage. Foundation walls (see elevation above) ride down the natural slope in three steps rather than digging deeply and expensively into the hillside. Basement space is logically near the lowest corner of the lot where it requires least excavation, and where it can get natural lighting above grade for use as a playroom or workshop. This put the bedrooms above on the same level as the rest of the main floor and high enough above to get both privacy and a desirable west view over the rooftops opposite.

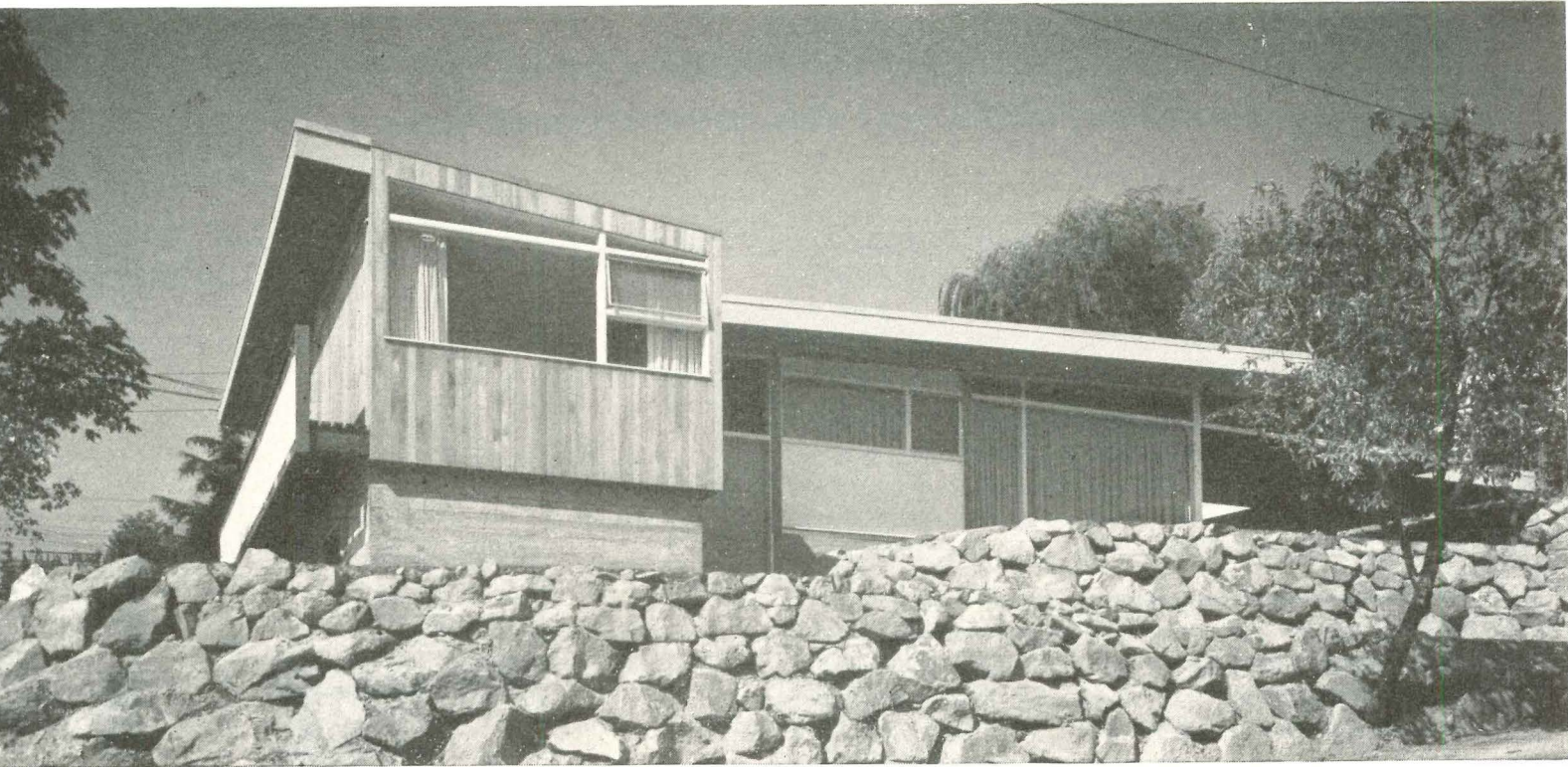
A partially covered outdoor sitting area (an owner's requirement in this custom-designed house) was provided on the only level, high-and-dry place on the lot, and shielded by the house on one side, carport on the neighbors' side, retaining wall and fence in back. This terrace is open to south sun and breeze, has no fence in front since it is set back and higher than the lightly traveled side street. (With a fence, it would be like the "front-patio" scheme on p. 99.)

Cost data: contract price of \$19,950 (excl. 10% architect's fee) includes \$1,700 in sitework. Main floor area is 1,230 sq. ft. plus 500 sq. ft. basement area, covered terrace and carport.

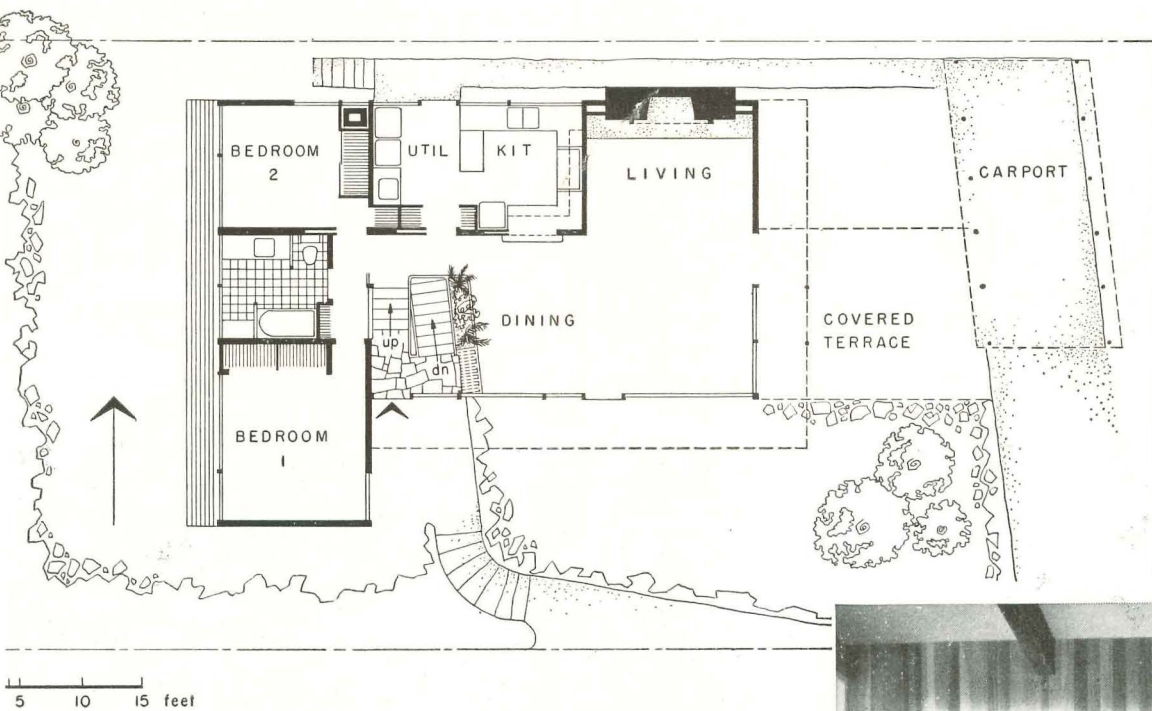
Window-washer's catwalk shields bedrooms from street, accents horizontal lines



Photos: Charles R. Pearson



Logical butterfly roof results from high living room, right, low center hall, two story bedroom wing with view.



Spaciousness through open planning (above): view from living to dining area, over stairwell to bedroom hall. Low ceiling, lights, cedar paneling recapture intimate mood.



6. THE HILLSIDE HOUSE achieves privacy, view and outdoor living on a steep site—with a “service core” plan, post-and-beam framing

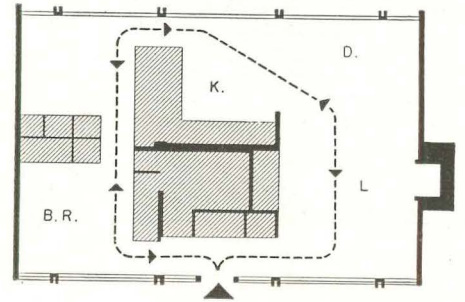
This \$13,000 house, which won the 1952 Northwest AIA award, \$20,000-and-under category, was designed by architect Paul Kirk for his builder brother Blair to erect on speculation. To other builders and architects working with hilly land, it is chiefly interesting for its

Good placement on a tough site: instead of burrowing into the hill, it takes off on stilts toward the view, leaving a shelf of land behind it and creating a south exposure for the house. This rear terrace has wood decking for minimum upkeep and high fences for privacy and wind protection.

Workable central-core plan: an “island” groups plumbing and storage spaces around a single “wet wall,” leaves the perimeter of the plan free for activity and sleeping areas with full fenestration. Circulation (*see sketch*) hugs this service core, allowing ample “dead” space around the outside walls for furniture placement. To blank out views of neighbors on either side, end walls are windowless; the eye is channeled out through a whole wall of glass to the east water view, or to the rear deck and garden. Light and ventilation for the inside bath and inner side of the kitchen are provided by a large skylight. Note: the bathroom door is the only door actually necessary in a house of this plan type.

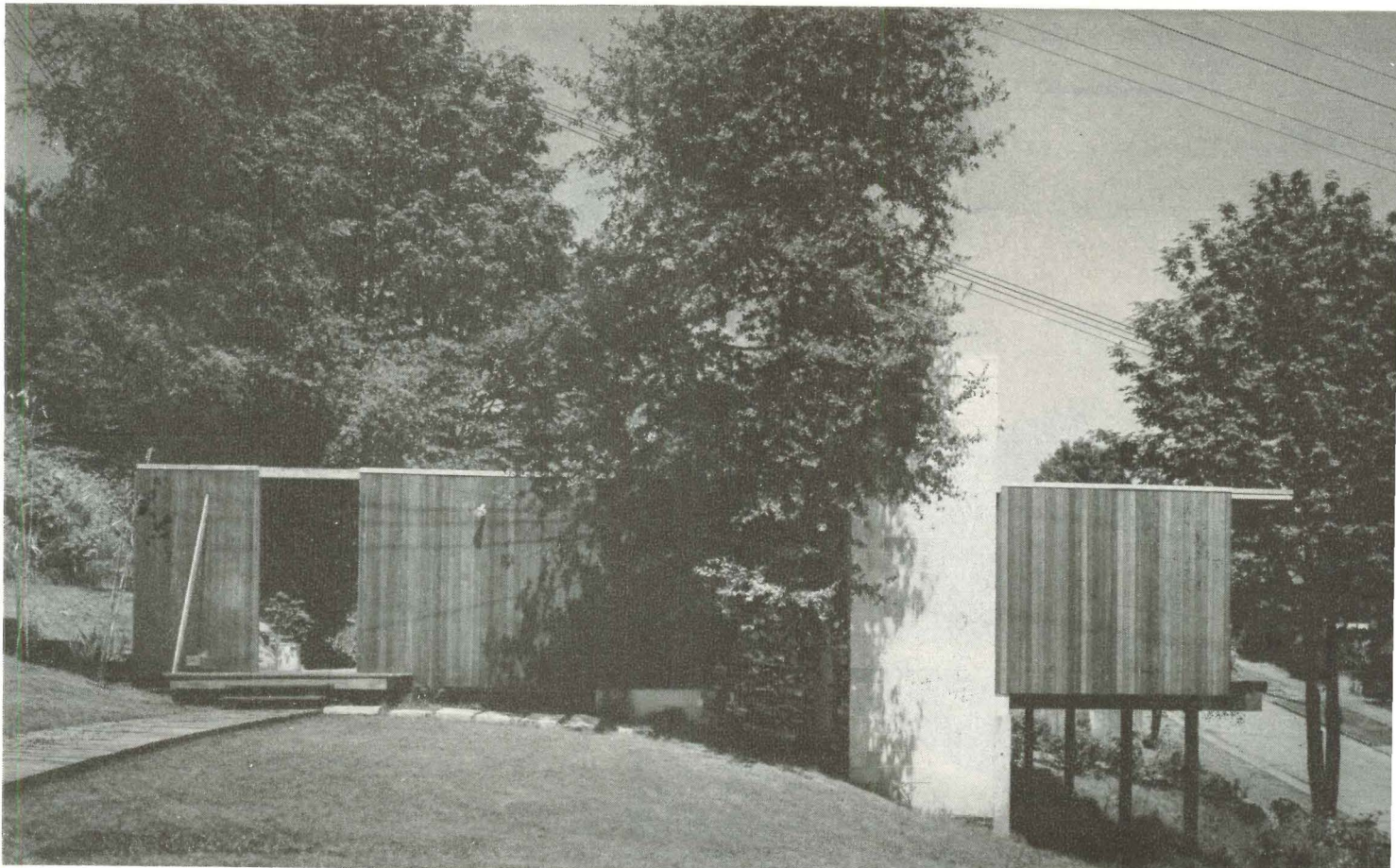
Expandability: the 814 sq. ft. of enclosed space on the main level is supplemented by 420 sq. ft. of basement below for storage, laundry and furnace. By cutting a stair into the floor of the general-purpose room above, owners can eventually expand downward and sheathe in the exposed posts to form additional bedrooms.

PAUL HAYDEN KIRK, architect
BLAIR KIRK, builder



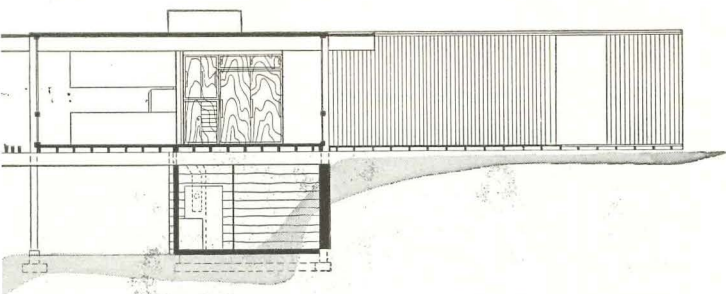
Core-type floor plan (diagram above) works like three concentric rings: innermost masses closets, cabinets, kitchen and bathroom fixtures (on one stack); next ring is circulation path; outermost is free for windows, furniture.

Photos: Dearborn-Massar,

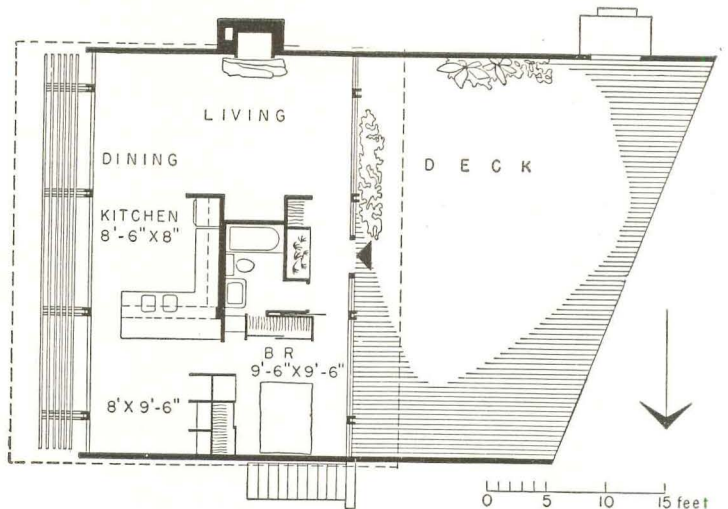


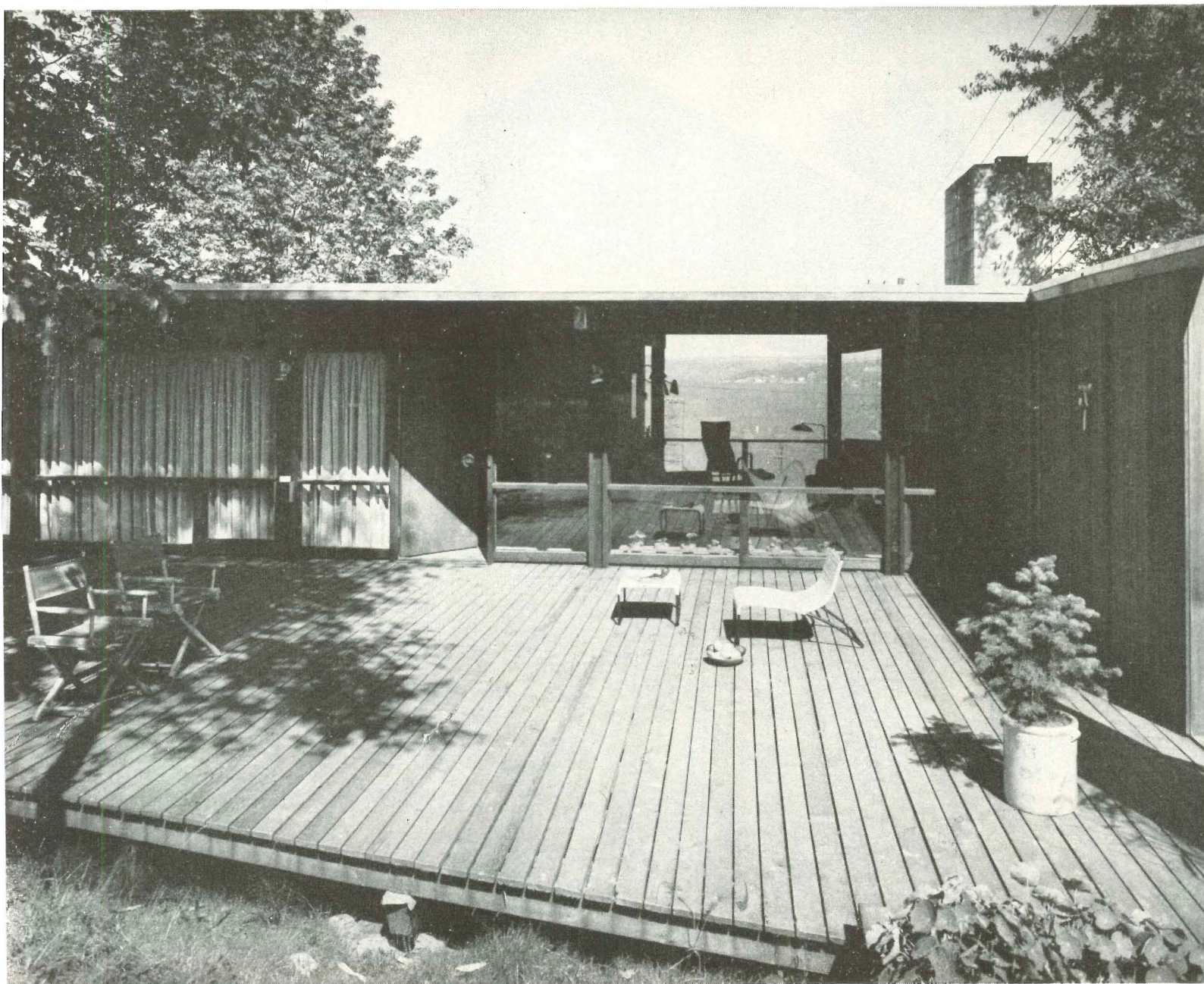


East elevation has glass wall for main lake view and morning sun, wide overhang to reduce sky glare and hot noonday rays, catwalk for window washing. Gray-white panels below windows are of cement asbestos board.



Steps lead up from street to courtyard entrance on south side (left). Stairing is 1" x 4" T & G clear fir, chimney of concrete block. Both east and north sides, facing neighboring houses, are windowless for privacy. Enclosed basement serves as bulk storage space and furnace room for warm air system. Open space under the house can be finished in later to create three more bedrooms.

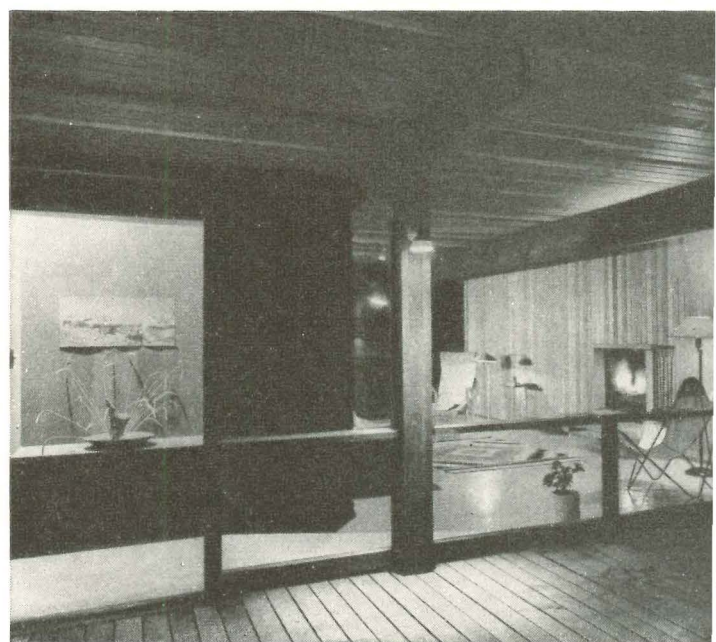




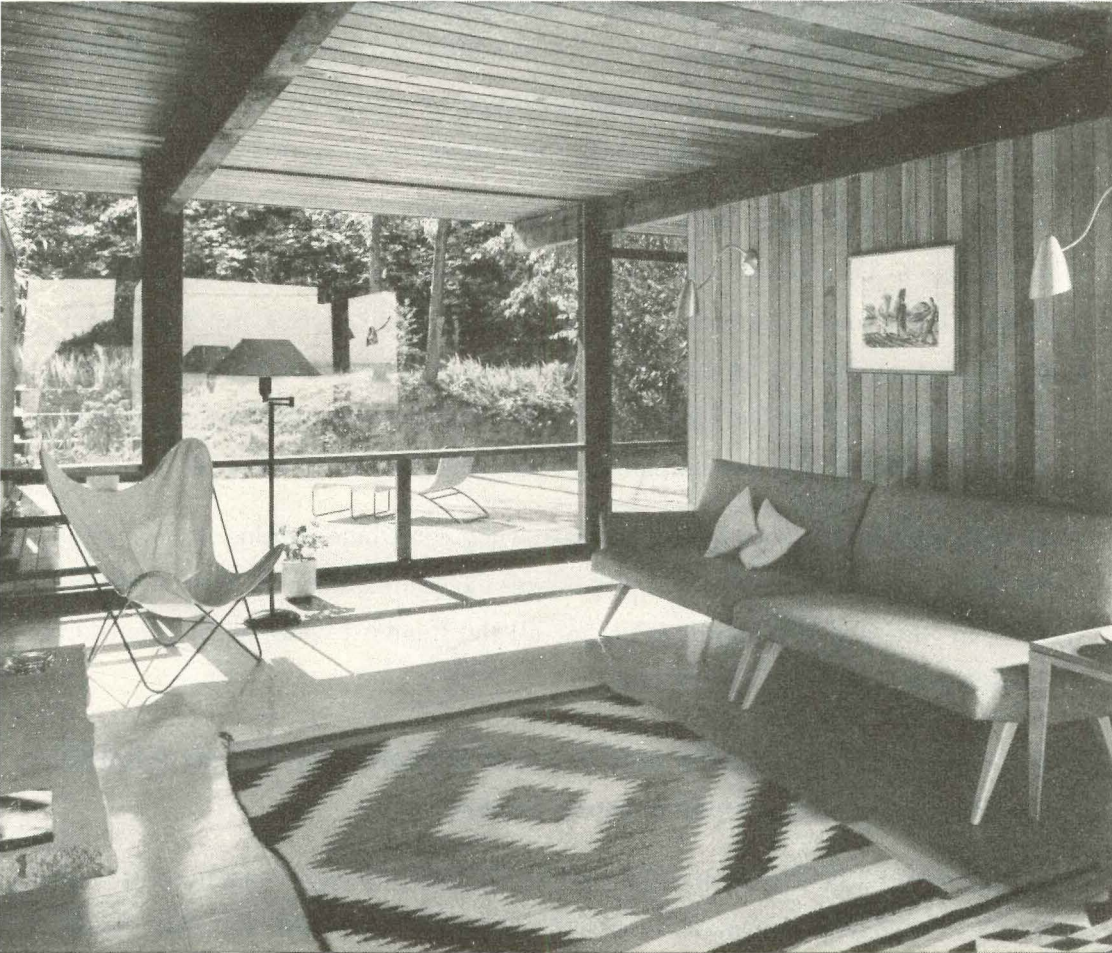
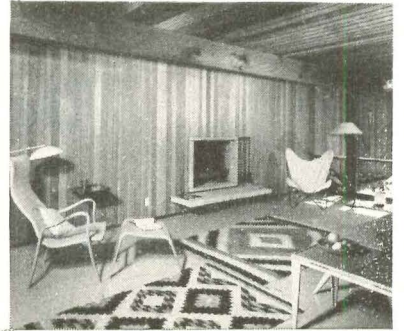
Gravel bed under raised wood deck safely carries off hillside rain water

Lighted showcase dramatizes main entry from deck side. Right: living

Clean construction—four 4" x 4"s 9' or 10' apart (each bracketed with 2" x 6" strongbacks to form wood H-columns) support double 2" x 12" floor beams (topped crosswise with a floor of 2" x 6" joists) and continue up to support 4" x 10" roof beams (4" x 14" over the living room to carry a longer clear span). This simple and effective system is exposed to view as a structural pattern (see photo p. 105). Unity of design and warmth of texture were achieved by using cedar or fir planking, 1" x 4" or 2" x 6" T&G, for virtually *all* surfaces inside and out: ceilings, walls, fences, decking. For a dark, mellow finish, wood surfaces were stained and burned with ferrous chloride.



Fir walls, ceilings lend warmth to interiors. Raised hearth is of sandstone.

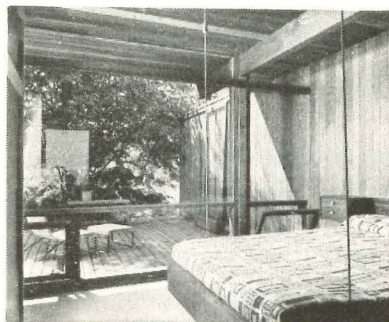


Wide-spaced 4" x 14" beams carry clear span over living room. Low rails across floor-to-ceiling glass are wise safety measure, if mainly psychological, do not interfere with view of private sun deck and garden beyond.

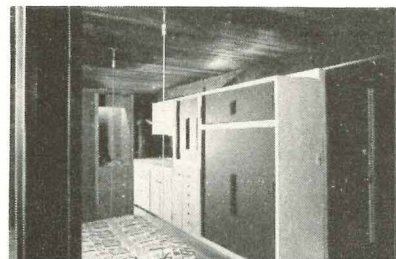


L-shaped kitchen has long plastic skylight, is separated from general purpose room by free-standing counter, center.

Master bedroom has its own deck view. The double bed is suspended near the foot "for sweeping underneath."



Bedroom side of service core has built-in drawers and a wardrobe with sliding doors of pressed fiberboard.



Does code Babel add \$1,000 to small house building cost?

The most expensive thing about today's house is not the tiled bath with its smart pullman lavatory. It is not the labor-saving dishwasher, clothes washer, garbage disposer and automatic range, or even the air-conditioning compressor that permits a completely new standard of year-round comfort.

The most expensive thing about today's house is the local building code under which it has to be erected, with its countless unpredictable and often senseless variances from sound national standards. These variances cost the homebuyer (and the homebuilder) a lot more than it would cost to make all the living rooms and all the bedrooms 20% larger—more than wall-to-wall carpeting, more than complete insulation and double glazing, more than an extra bathroom.

And these variances are completely useless. They contribute nothing to the safety of the house or the health and happiness of the family beyond what could be assured by one of the standard codes, for all the standard codes make provision for meeting local climatic conditions.

These variances probably add a good \$1,000—or a bad \$1,000 if you like—to the cost of a small house

Now that extra \$1,000 is not just the sum of all the little wastes which are forced upon the homebuilder by most local codes—a few dollars for a useless house trap, a few dollars for 100% extra weight of plumbing beyond what makes sense, a few dollars for making the vent too tall for economical flashing, a few dollars for metallic armor around the electric light wires when nonmetallic cable would do just as well, a few dollars for ceiling lights in rooms where ceiling lights are out of fashion, a few dollars for studs spaced on 16" centers when 24" would be more than strong enough, a few dollars for footings under every bearing wall when a floating slab would probably be better.

The real cost of codes is that their myriad variations always discourage and often forbid the progress of standardization and the development of mass-produced standard parts that could knock the bottom out of many home-building costs.

Does anyone doubt that, granted one plumbing standard from coast to coast, the plumbing industry could market a standard plumbing assembly whose installation would be a matter of minutes instead of hours? Does anyone doubt that standard bathroom walls predrilled for pipes could be developed to minimize the cost of that most expensive room? Does anyone doubt . . .

What would a small car cost today if the automakers were forbidden to mass produce one single nationwide model, but were forced instead to turn out one model for New York, one model for Yonkers, and a third for Skaneateles?

As long as every city, village and town can dream up its own special requirements and forbid the kind of construction that is perfectly legal in the next community, what hope is there that homebuilding can achieve the economies mass production has brought to every other product the American family uses?

There is a barrel full of hypocrisy in the chaos of local codes

Can anyone say honestly that 2,200 different plumbing codes are necessary to protect our health? Does anyone really believe the local plumber who upholds the local code knows more about health and sanitation than the US Public Health Service and all the experts who wrote the national plumbing code? Is there any purpose to a divergent local plumbing code except to make more local work? The truth is most local codes are rackets, and most of their special provisions would not be upheld by the courts if any builder could afford to challenge them (May '51 issue page 111).

Likewise, can anyone say that the great principle of local rights and local self-government is threatened when a community is asked to accept uniform code standards? Are nationwide standards for plumbing and fire protection any greater menace to our liberties than the nationwide standards for food and drugs which have been accepted for more than a generation? The truth is the special requirements of most local codes are a sort of local tariff to keep out the "imported" products of other than local labor. Such barriers to interstate commerce were forbidden by the founding fathers when they wrote the Constitution, and they have never been defended in even the hottest states' rights debate.

Too often local codes survive because in each community there are people who think they can make more money out of code divergencies than they could make under national standards, and these beneficiaries are willing to fight harder than the codes' victims will fight to throw them off. Too often the victims are afraid to fight. Plumbing manufacturers, for example, hesitate to offend the local plumbers through whom their sales are made. The electrical manufacturers were afraid to get involved when Los Angeles and Milwaukee were fighting for less wasteful electrical requirements.

and the Federal Housing Administration, which could

be exerting a tremendously effective pressure for sound nationwide standards, has elected instead to include in its valuations the cost of whatever the local code requires, however unnecessary it may be. Thus, the more waste the local code requires, the higher the valuation FHA will give to cover those useless costs!

Since the war great progress has been made in developing uniform standards which most communities can adopt and keep in step with by reference. The need today is to overcome local obstructionism and get these standards adopted at the local level. Now is the time for all good men to come to the aid of the devoted few who have carried the fight for code coordination to this final stage.

This is a battle in which the American Legion, the Veteran of Foreign Wars and the Veteran Administration should be taking a full share, for most of today's new houses are being sold to veterans, and so veterans end up paying most of the cost. It is a battle in which the women's clubs and the women's magazines should be deeply interested, for the more waste a house requires the less quality it can have, the less labor-saving equipment it can include, the less adequate its space must be—and all this means more work for women and less enjoyment of home for all the family.

Most of all this is a battle for the organized homebuilders. The day has passed when they could offset higher costs by getting Congress to fix lower interest rates or insure slower mortgage repayments. The day has come when no one can pass on useless costs to a housing-starved public.

The high cost of code-enforced waste is the biggest single reason homebuilders find it hard to get their prices down to reach a much broader market among lower-income families. It is the biggest single reason they find it hard to answer public housing's challenge to provide good homes for everyone at prices they can afford.

Ten years ago the homebuilders were not strong enough to take the lead in a successful battle for uniform codes and standards. Today they are well organized at the local level, well organized at the national level. They are fortunate in national leaders who recognize their social responsibilities. Better than any other interested group, the homebuilders are now in a position to lead the final drive for uniform standards at both the local and the national level.

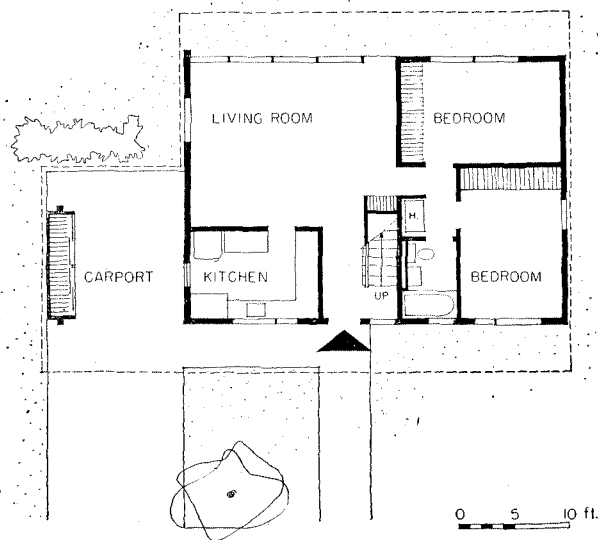
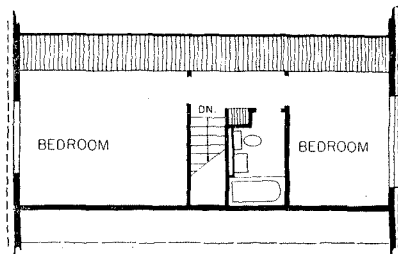
There is no greater service they could perform for the community—and no project they could tackle that would do more for the health and prosperity of their maturing industry.

EXPANSION-ATTIC TRUSS

offers new way to make small houses bigger at minimum cost

"Many builders would like to use roof trusses to save materials and manpower and to achieve complete flexibility for their room layouts (since interior walls would no longer have to be spaced to help support the ceiling). Unfortunately, most present trusses make it impossible to use the attic space for storage or future expansion.

"HHFA and BRAB should co-operate immediately to correlate and complete the necessary research to make generally available a roof truss design which would permit maximum attic use."—Recommendation of THE MAGAZINE OF BUILDING Round Table on Waste in Homebuilding, Feb. 1951.



Here is one possible plan for two floors of a 24' x 34' house using the expansion-attic trussed rafter. Plan would be much better if the house were a few feet longer. (At stair one truss is displaced 1'.) In most FHA districts the inside bath upstairs can be ventilated through open space under the roof, whose ends would be closed only with louvers. An exhaust fan in one gable end would make it possible to give the upstairs bedrooms through ventilation.

If you take a good look at the photograph on the opposite page you can figure out for yourself the biggest secret HHFA has up its research sleeve and one of the more important new house-framing developments for some time.

This is the new expansion-attic trussed rafter developed by the Small Homes Council at the University of Illinois under a research grant from HHFA. It suggests what is almost certainly the cheapest of all possible ways to add another 300 to 400 sq. ft. of good space to a small house. It is the pet idea of Leonard Haeger, now NAHB's research director, and the research grant was approved by HHFA right after THE MAGAZINE OF BUILDING held its Round Table (of which Leonard Haeger and William Scheick of Building Research Advisory Board were both members).

The photograph (just released for publication) is supposed to show only that the truss is being tested with weights for "5' of wet snow"* and a 30 lb. floor live load. Actually it shows all the details of its construction, and shows that the Small Homes Council has met the challenge with a solution that answers several problems at once:

1. It provides a clear space 12' wide and 7½' high running the length of the attic—enough for two bedrooms of which the largest is 12' x 15' plus bath plus stairway and hall and abundant closets over a 24' x 34' (816 sq. ft.) house.

2. It provides a 32" overhang front and back, but keeps the bottom of that overhang from coming down below the ceiling line—though at the cost of a slightly ungainly rise in total height.

3. It permits a lower (8 in 12) roof pitch than the usual expansion-attic house (bringing height down again).

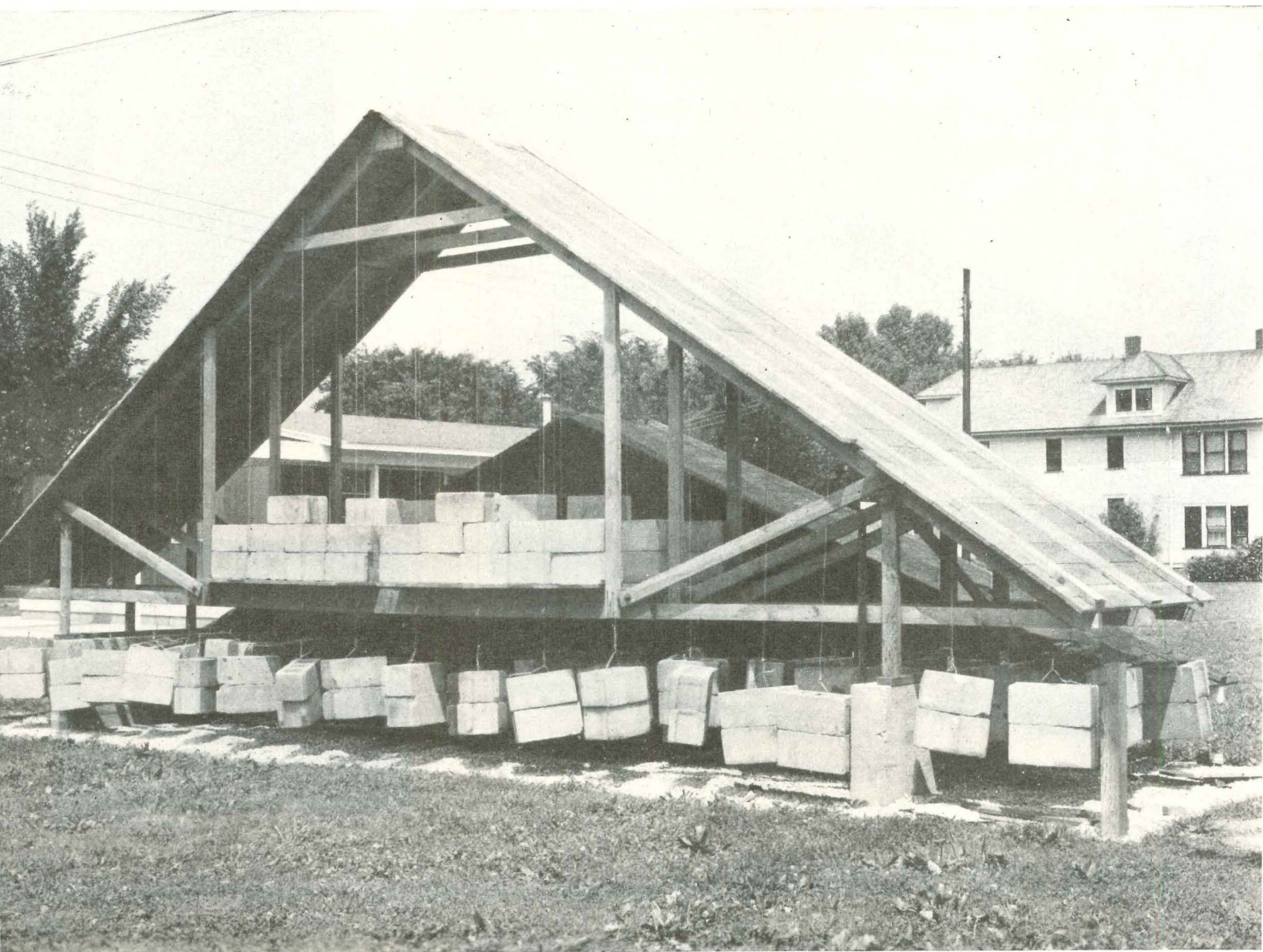
The truss is described in the HHFA release as "the best of several designs developed, the easiest to fabricate and erect and the most economical in the use of materials." It is an odd underslung affair, supported partway up the rafters and not at the joist line. This is done by cutting in small triangles at each end. The apex of each smaller triangle is the saddle for the wall plate. The outer leg is the rafter end that forms the overhang. The inner legs of the two small triangles are diagonal 2 x 4 struts between whose ends is hung the 12' long 2 x 8 that forms the floor joist for the attic rooms. The base line of each small triangle is the 2 x 4 joist that completes the ceiling out to the eaves; but this is nonstructural and can be nailed on after the truss has been dropped on the plate. This explains how the studs can come up through the ceiling line to a plate directly under the rafter.

The present design is profuse in ring connectors, using six: one at either end of the two diagonal struts, one at either end of the collar girt. The other connections are made with nails. Rafters appear to be 2 x 6's, attic floor joists 2 x 8's, all other lumber 2 x 4's.

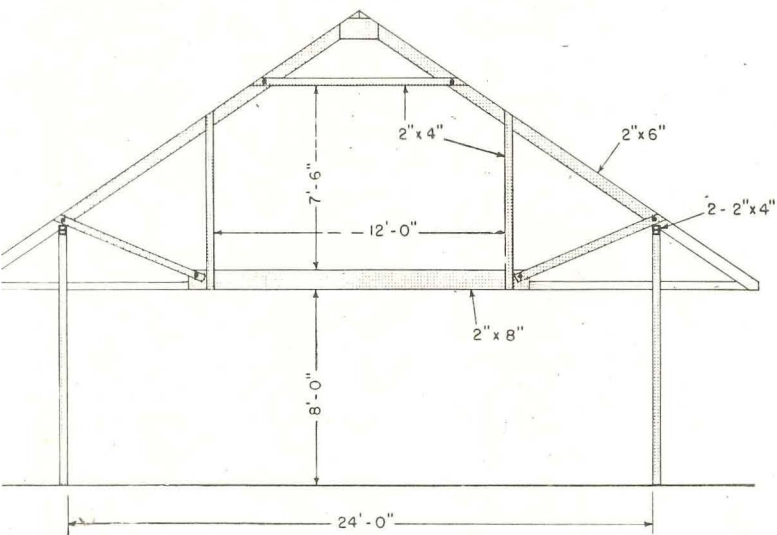
The truss appears to use between 95 and 100 bd. ft. of lumber for a 24 span, with 2'-8" overhang. This is about twice as much as the most economical trussed rafter with a 5' in 12' pitch, but it is only about half as much as the usual expansion-attic house without truss construction requires just for roof rafters and ceiling joists on 16" centers. (This does not count the further economies permitted under most codes by wider stud spacing in nonbearing walls and partitions.)

Development of the truss is in the capable hands of James T. Lendrum, director of the Small Homes Council, and Willard J. Worth, his research assistant and project supervisor. Upon completion of the project, findings will be submitted to Joseph H. Orendorff, director of the HHFA Division of Housing Research, for official publication next year.

* Maximum weight 250 lb. and virtually impossible on an 8-12 pitch.—Ed.

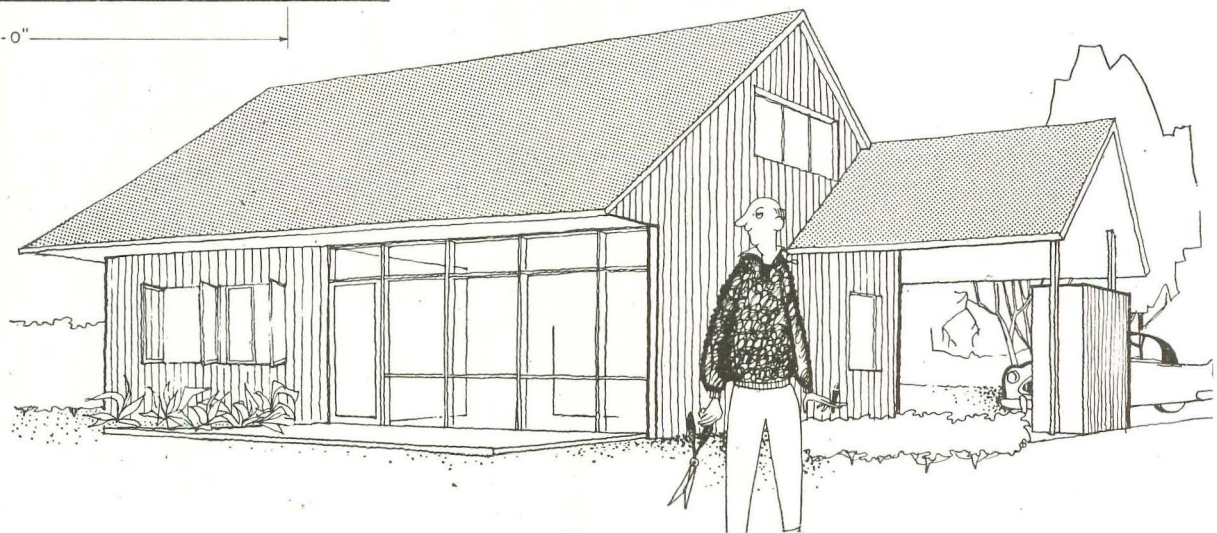


Experimental expansion-attic trusses were hung with concrete blocks by Small Homes Council to simulate snow and live loads.



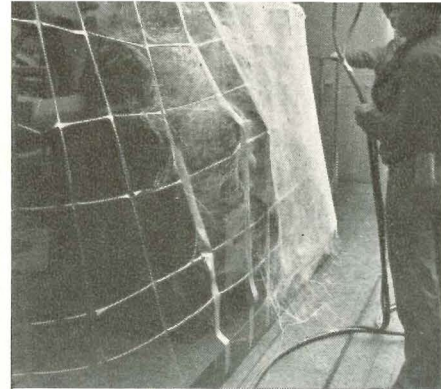
Rafter truss with essential structural components shown in gray indicates low center of gravity useful in erection. (Other parts of truss fulfill necessary duties and help brace the structure.)

*ective shows house with slab-on-
e foundation, yielding lowest pos-
eaves line for better proportions.
e easy roof slope (8 on 12), helps
roof line, a longer plan would
er decrease the effect of "too big
t."*





White vinyl plastic being sprayed over the cement block walls of apartment building.



Vinyl plastic mothballing was developed to serve valuable military and naval equipment.

Twitchell & Rudolph used mothballing to provide a flexible seal for their tensioned roof.



Ezra Stoller-Pictor

SPRAYED PLASTICS find new uses in building by providing a tough, leathery skin

with good resistance to moisture, corrosion, heat and cold

One of the most versatile building materials developed in the past decade is a plastic waterproofing material that can be modified to suit even the most rigorous of weathering tests, can be used both indoors and out, and is not subject to cracking by expansion or contraction of the base it covers.

In housebuilding this high bond skin can be used to advantage: ▶ to waterproof foundations below grade—on a Miami hotel seasonal flooding of the cellar was cured by spraying the exterior of the foundation wall with a layer of vinyl plastic followed by a layer of gilsonite at a cost of about 40¢ per sq. ft.;

▶ to repair and prolong the life of exterior masonry and concrete walls—on the apartment houses pictured above the first coat of sprayed plastic contained an aluminum plasticiser to withstand the actinic rays of the sun and the resultant gray skin was coated with a white pigmented plastic for color; cost was about 45¢ per sq. ft.;

▶ to substitute for metal whenever flashing is required—with the sprayed plastic reinforced with glass fiber and coated with gilsonite, the applied cost still promises to be under a \$1 per sq. ft., considerably cheaper than hard-to-get copper flashing;

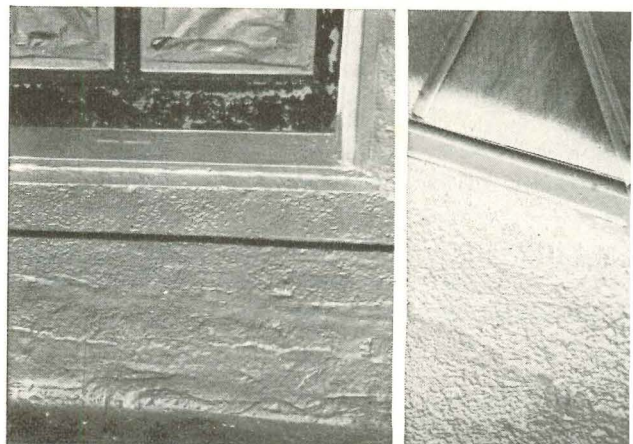
▶ to provide easily cleaned, durable and waterproof surfaces for bathrooms, kitchens, playrooms, etc.—a single vinyl plastic skin used on the masonry walls of the rooms and kitchens of the Broadview Hotel in Wichita, Kan., cost 20¢ per sq. ft., compared with tile costs of well over \$1 per sq. ft.

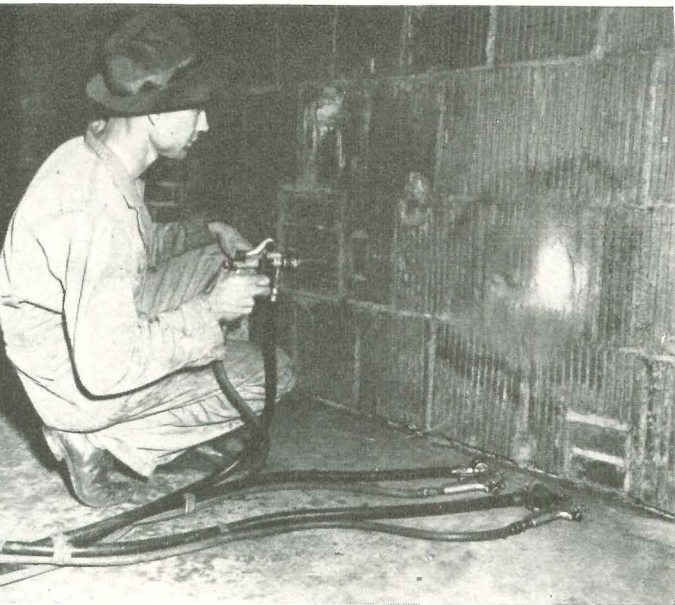
Although vinyl plastic skin does not support combustion, it will decompose if held in a flame, and cigarettes put out against it do leave a permanent black stain which might sometimes preclude the use of this material as a floor covering.

able exposed equipment, these organic chemical plastics have already been considerably used in larger buildings where the large surface areas permitted the most efficient use of the spray equipment involved. Several large houses in Florida have been completely mothballed in this continuous skin, which successfully prevented driving winds and rains from creeping beneath and lodging roof tiles. Architect Paul Rudolph found it a most satisfactory material to waterproof the catenary curved roof of a modern house (June '51 issue), but he stresses the importance of the plastic skin being of equal thickness throughout, and, externally, at least 45 mils thick.

Vinyl plastic is an organic material made up of salt, natural chlorine and ethylene. It is a vinyl chloride-acetate polymer in liquid vinyl plastic. The polymer is dissolved in carefully balanced

Plastic skin provides watertight flashing around window and projections, eliminates time-consuming calking operations.





to repair and waterproof walls, sprayed plastic bridges and seals any cracks. Care should be taken that no moisture is trapped behind continuous skin.

plasticisers and pigments are added to obtain the optimum properties for the particular application intended. It is applied with spray equipment using an air compressor capable of spraying 25 cu. ft. per min. to each gun at a pressure of 90 lbs. per sq. in. For one set of spray guns this equipment will cost about \$200 excluding the compressor. The film can be sprayed easily, coating 100 sq. ft. with a dry film thickness of 15 mils in less than 12 mins. The gun is held about 8" from the surface (which must be perfectly dry) and kept moving fairly rapidly. In some areas difficulties arise where certain building unions oppose the use of spray equipment for painting, but in Florida they have agreed to permit vinyl plastics to be sprayed since it is impossible to apply this material with brushes.

For rough estimating the cost of vinyl plastic is 1¢ per mil per sq. ft. For interior surfaces a thickness of 15 to 20 mils is sufficient. For exterior surface thickness will depend upon the degree of exposure to be encountered. The skin should only be sprayed upon non-porous materials as any entrapped moisture might lead to deterioration of the material being covered. (Thus wood, or built-up roofs consisting of felt and tarpaper, cannot be satisfactorily mothballed with these materials tend to deteriorate before the plastic skin, and they provide a difficult maintenance problem.) In addition, care should be taken not to spray over any sharp edges; these might peel the skin and start leaks.

Most immediate applications of vinyl plastic spray are in the renovation and repair of old buildings. The surface is first cleaned with a wire brush, then coated with plastic spray. There is no need for caulking. The spray is simply driven into cracks which are completely sealed up. Any deep cracks or holes can be filled with a mixture of wet spray and sand, which provides an excellent filling material. This is then covered with plastic spray and left to cure in the normal manner. The material can be handled in 30 minutes, dries hard in 12 hrs.

Depending upon the composition, vinyl plastics can be obtained for about \$5 per gal., but unless the job is large enough to warrant employing the builder's own men, most distributors prefer to use their own experienced crews and spray the material on a contract basis. One gallon of plastic will cover 25 sq. ft. of surface with a film about 20 mils thick. FHA has not yet approved sprayed plastic—but only because no one has applied for approval.

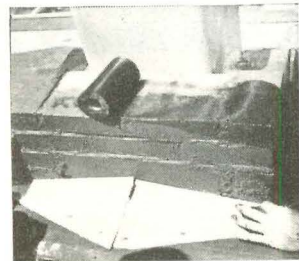
FLEXIBLE FLASHING: reinforced synthetic rubber can be applied with brush

Whereas vinyl plastic can only be applied by comparatively expensive spray equipment, this synthetic rubber compound can be applied with a brush, making it available for the thousand-and-one small flashing and weatherproofing jobs that housebuilders are always called upon to do.

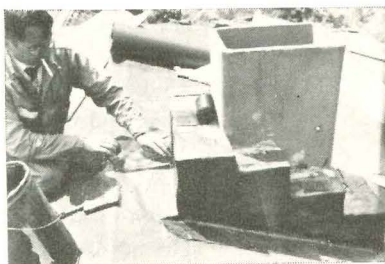
Illustrated here is a small chimney flashing job done on a new house at Somers, N. Y. The area to be weatherproofed is first coated with a layer of this air-dry synthetic rubber that, after being brushed on and exposed to the air, cures chemically without the need of vulcanizing or the application of heat. Immediately afterward glass fiber fabric is applied atop the fresh air-dry rubber; the fabric, cut into strips as required, is applied in such a way as to overlap and to seal all joints between the chimney and the roof. This glass fiber fabric is sealed with a second layer of air-dry rubber. After 45 mins. the rubber is dry but to ensure that a completely moisture-proof seal has been achieved, it is left to stand for 24 hrs., then brushed with a final skin of air-dry rubber. After this, finishing masonry is applied atop the plastic skin.



Chimney of house at Somers, N. Y., left, ready for flashing with synthetic rubber. First, the compound is brushed on exposed surfaces.

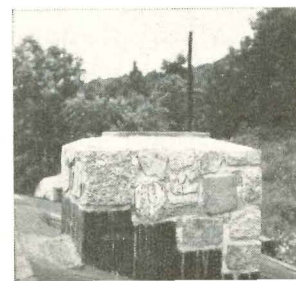


Glass fiber fabric, right, cut to shape, is spread on the still tacky rubber compound.



Exposed brickwork and adjacent roof surface, left, is completely sealed with fabric, then given another coat of rubber compound.

After setting for 24 hours, final coat of synthetic rubber ensures full protection to chimney, right. Time—one man, 3/4 hours; estimated cost—90¢ per sq. ft.



Rest of masonry, left, is built over the synthetic rubber flashing to provide tough, weather-resistant joints that, tests indicate, should be good for 20-30 yrs.



This colorful house is a good example of how a functional program can be transformed into an exciting, poetic piece of architecture.

For all its apparent complexity, this house is a very direct answer to three simple questions its architects asked themselves:

1. How to get a living space that looks both *out and up* toward a view of mountain tops to the north, and *out and down* toward a view of the ocean to the south?
2. How to translate the owner's imaginative notion—"a house that looks like a tent under the trees"—into a practical solution for a single woman who wants to maintain the place largely by herself?
3. And how to take care of dozens of little things well—down to tin-can disposal—that are usually supposed to be done well only in the unglamorous, practical house?

The answer—suggested, perhaps, by the owner's notion—turns out to be very similar indeed to some huge, triangular tent, whose ridge slopes up toward the north to a height of 20' (and thus carries the eye up toward the Santa Ynez mountain range a mile away); and slopes down toward the south to a height of only 8' (and thus carries the eye down toward the Pacific two miles away—and, incidentally, serves as a perfect shield against the sun.)

The flaps of this vast, triangular tent are all glass. The roof itself is framed in wood supported on a spine of steel that is the ridge. The big roof shades an area in the shape of an isosceles, 90° triangle, 76' long at the base and almost 60' long on its two short sides. Under this triangular shield are located the living and dining areas, and the main entrance. (These are contained in a smaller 90° triangle that measures, approximately, 50' x 36' x 36'.) Finally, two short low-roofed wings, containing bedrooms and services, abut the glass triangle at each end of its hypotenuse.

GLASS TENT

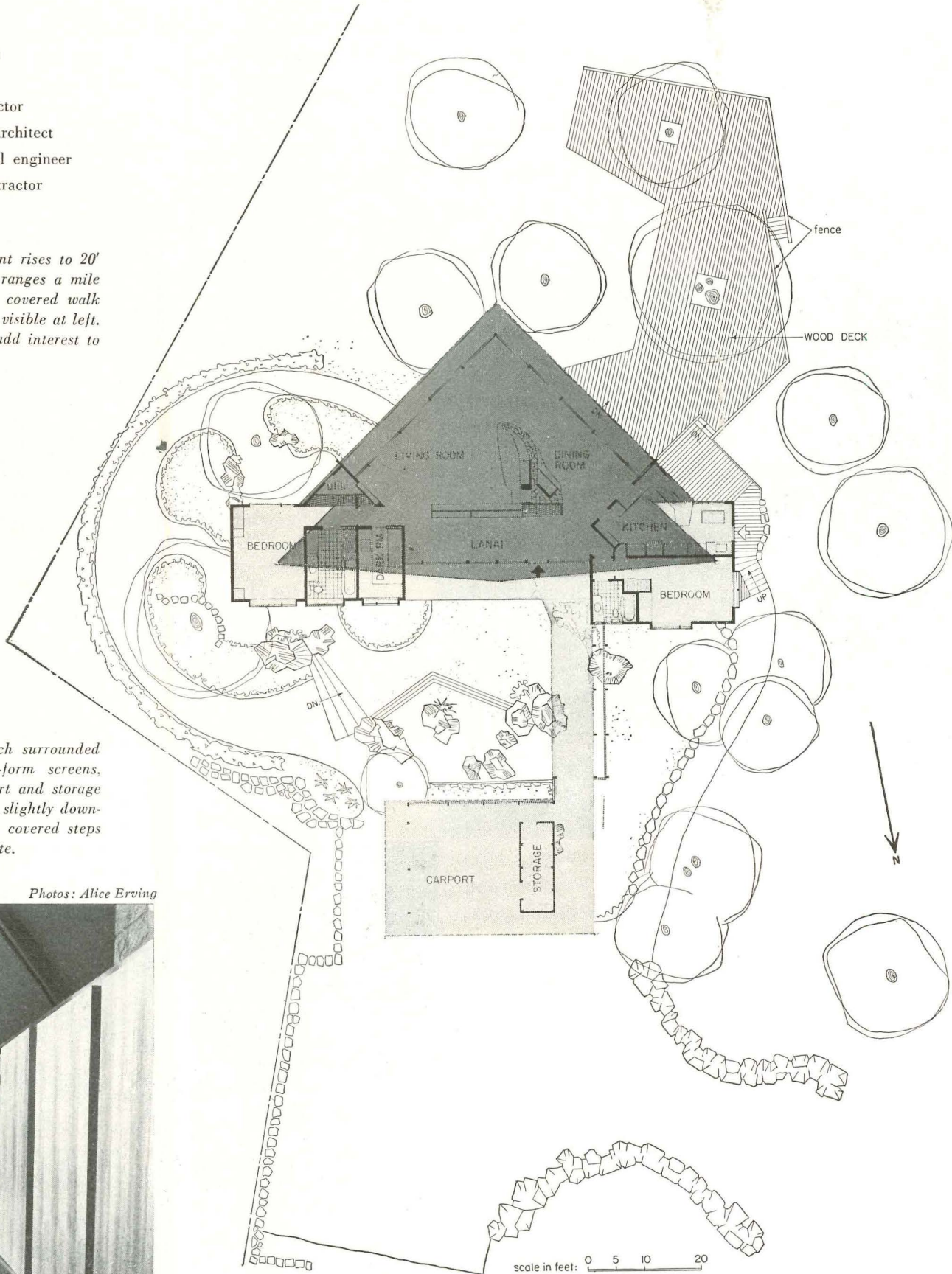
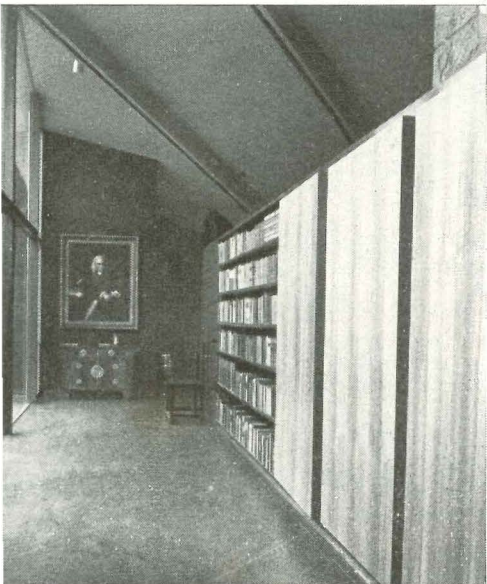
A simple program translated into a poetic design

LOCATION: Montecito, Calif.
 ARCHITECT: THOMAS CHURCH, architect
 ASSOCIATE: BENJAMIN SHAW III,
 PARTNER IN CHARGE & OFFICE DIRECTOR
 LANDSCAPE ARCHITECT: THOMAS CHURCH, landscape architect
 STRUCTURAL ENGINEER: WILSON J. BROWN, structural engineer
 GENERAL CONTRACTOR: GEORGE F. PETERS, general contractor

Note: North facade of glass tent rises to 20' and takes in view of mountain ranges a mile away. Main entrance is at end of covered walkway on right; one bedroom wing is visible at left. The trees like those in foreground add interest to the site.

Architect Thomas Church surrounded the house with his typical free-form screens, terraces, and beds. Carport and storage are located to the north (and slightly down) and linked to main house by covered steps and walk. Oak trees existed on site.

Photos: Alice Erving



Entrance area is screened from main living room by free-standing, 6½' high bookcase. This is high enough to shield the fireplace area, low enough to permit a view from living room proper of mountain ranges to the north (see next page).

The fireplace is the center of this glass tent. The huge mass of stone which was designed in a full-size model (with the help of sculptors Edna & William Hesthal), harbors not only the living-room hearth, but also a barbecue on the dining-room side, a wood storage bin. In addition, it acts as a space-divider, separating the dining from living area. The bookcase wall extending from the fireplace mass screens off the main entrance.

This island of stone and wood in the middle of the glass tent may strike some as rather heavy in form; yet whatever its sculptural merits, it serves as an effective focal point in the otherwise wide open space and carries further the analogy of some spacious campsite on a wooded ground. For this house—like Philip Johnson's *Glass House* (see issue '49)—is simply a clearing among the trees, a shield against sun and rain, with a campfire in the center. But unlike the Mies van der Rohe glass houses, this one has a sloping and overhanging roof and takes care of the bedrooms and essential services in two walled annexes.

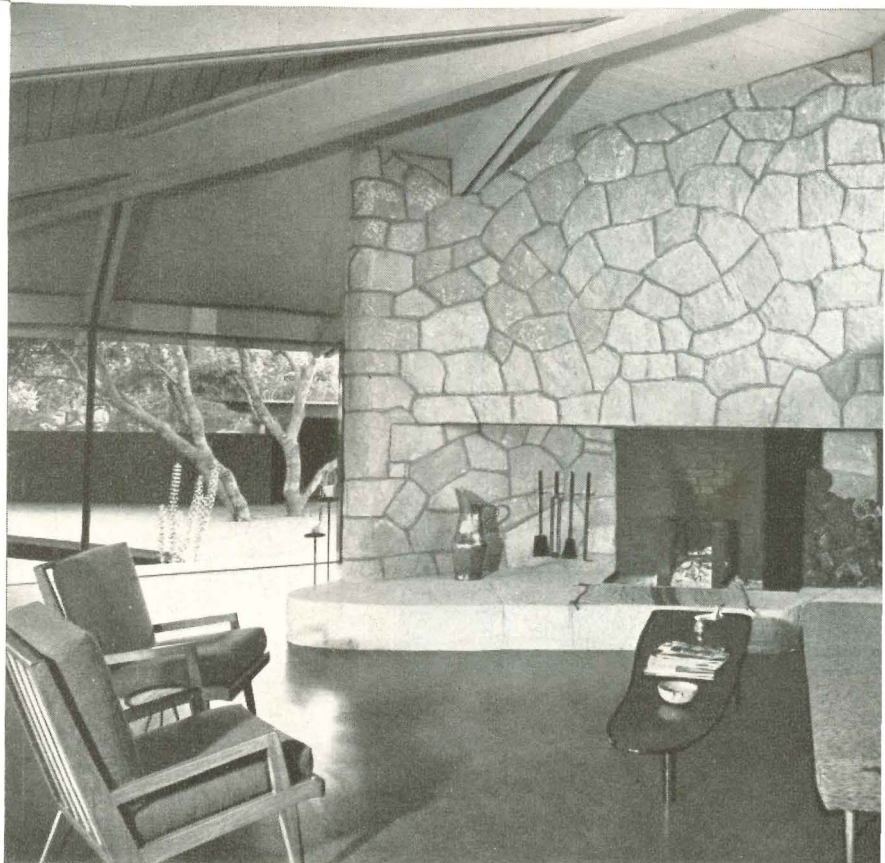
The two-way view that you get from this camping ground is explained in the diagram on the opposite page. The roof-shield is pitched at an angle of approximately 30° to take in the most favorable sun ranges to the north. The 6½' high bookcase was placed so as to blot out the immediate foreground (carport, entrance patio and driveway form) and to form a kind of baseline to the distant mountains—tops—an example of subtle, three-dimensional design. To the south, however, where the view of the Pacific is relatively distant and not overly dramatic, the architects deliberately created an interesting foreground view to supplement that of the ocean: a boomerang-shaped wooden platform, designed with landscape architect Thomas Church, and screened against the road by a solid 6½' high fence, surrounds this side of the house and supplies an outdoor living area almost twice as big as that under the "tent" itself. (The screen fence also makes curtains in the glass triangle unnecessary.) The wooden platform was raised off the ground on short posts, obviating the need for expensive grading around this end of the house. It requires no upkeep. Church suggested that the platform be made as large as possible, and that remainder of site be left largely un-

Photos: Alice Erving



Wood platform curves around southern tip of glass living area, is shielded by 6½' high fence from the street below. Platform rests on posts which made grading of this part of site unnecessary.

Center of living area is tremendous sandstone fireplace with 10' wide hearth. Floors in living area are terrazzo.





Southern tip of glass tent is shielded by low roof, deep overhang

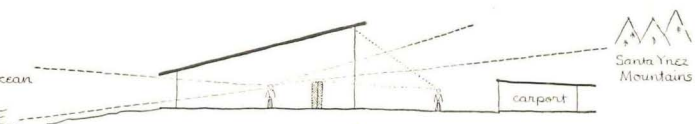
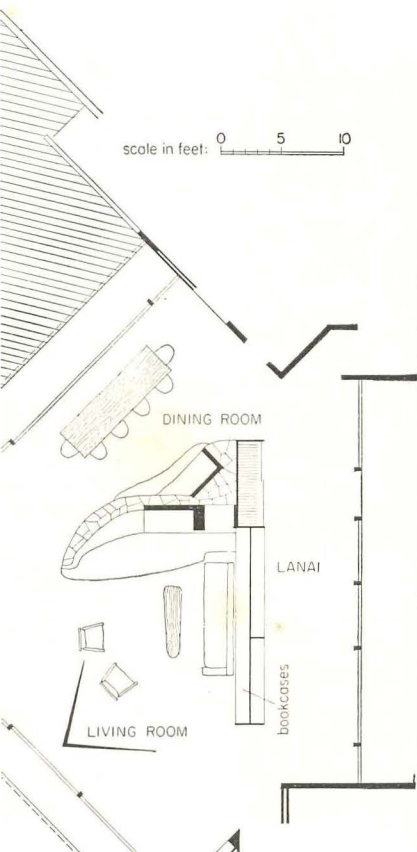


Diagram left illustrates how roof was pitched to take in views of high mountain range, and of low Pacific coastline, and how freestanding bookcase was used to screen living area against entrance, and blot out garage as you look out of living room.



View of 6½' high bookcase showing Santa Ynez mountains above it in the distance



Alice Erving



Dining-room side of fireplace mass has barbecue set into black iron shelf (left). Fire heats iron sufficiently to make shelf a good plate-warmer.



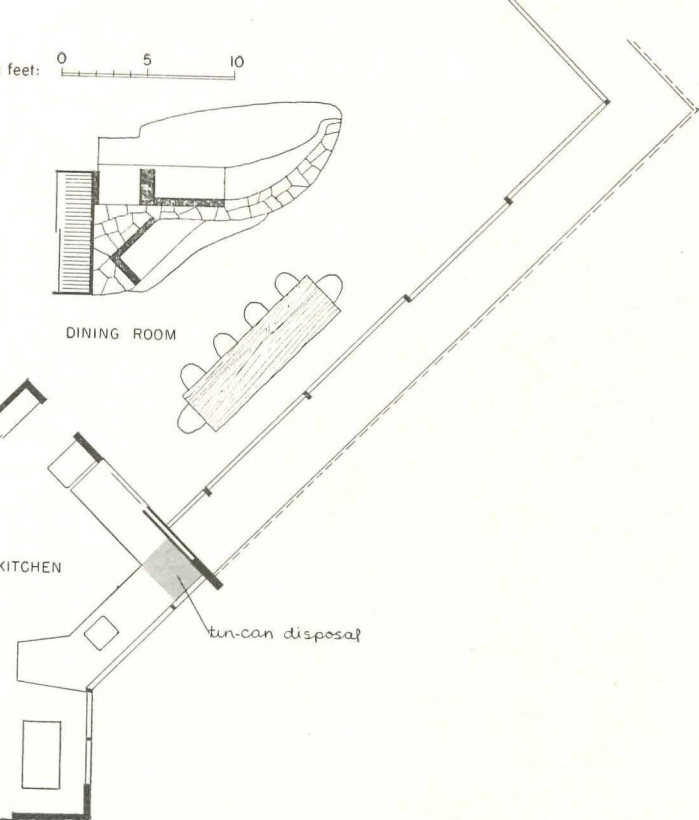
Richard Fish

Kitchen has innumerable built-in devices, including tin-can disposal unit set into counter at right. Cans are dropped into disposal unit, which can be emptied from outside the house. This seems like a first-rate idea, applicable to builder houses whose kitchens face the street.

This is an eminently practical house, despite all its fanciful detail. The owner—Alice Erving, a photographer—lives alone, wanted a place that she could manage with a minimum of outside help. Both bedroom wings, for example, can be closed off completely from the main living area, thus don't have to be kept presentable at all times. In fact the owner can just about shut herself off in her bedroom wing when she is working in the darkroom—which is part of that wing. Similarly, guests (or a possible future maid) can have complete privacy in their part of the house if that is what they want.

The architects thought through a good many details that are frequently overlooked or left unstudied: bathroom wash basins are a reasonable 36" high like kitchen sinks; a tin-can disposer was built into the kitchen counter—you toss the cans into a receptacle that can be emptied from the outside; an elaborate but compactly designed radio-phonograph combination was built into the owner's bedroom wall (she has an excellent record collection, likes to play them at night without disturbing her guests); and there are so many built-in closets, drawer units, shelves, etc. that the house looks incredibly neat at all times.

If all these practical points prove anything at all, then they demonstrate that efficient details, good sun control, with equally good view control, landscaping that provides plenty of privacy, etc. don't need to add up to a maze of gadgets or to some sort of functionalist nightmare. For this is, above all, a very poetic house—and regardless of whether or not you like each individual stanza, the architects certainly produced a fine flight of fancy with a lot of common sense.



GLASS TENT

Dining area overlooks the boomerang-shaped wooden platform that swings around south end of house. Note solid fence around platform. View of distant coastline is past platform, to the left and down. Small oaks existed on site; Riggs and Shaw removed only one in building this house.

Alice Erving

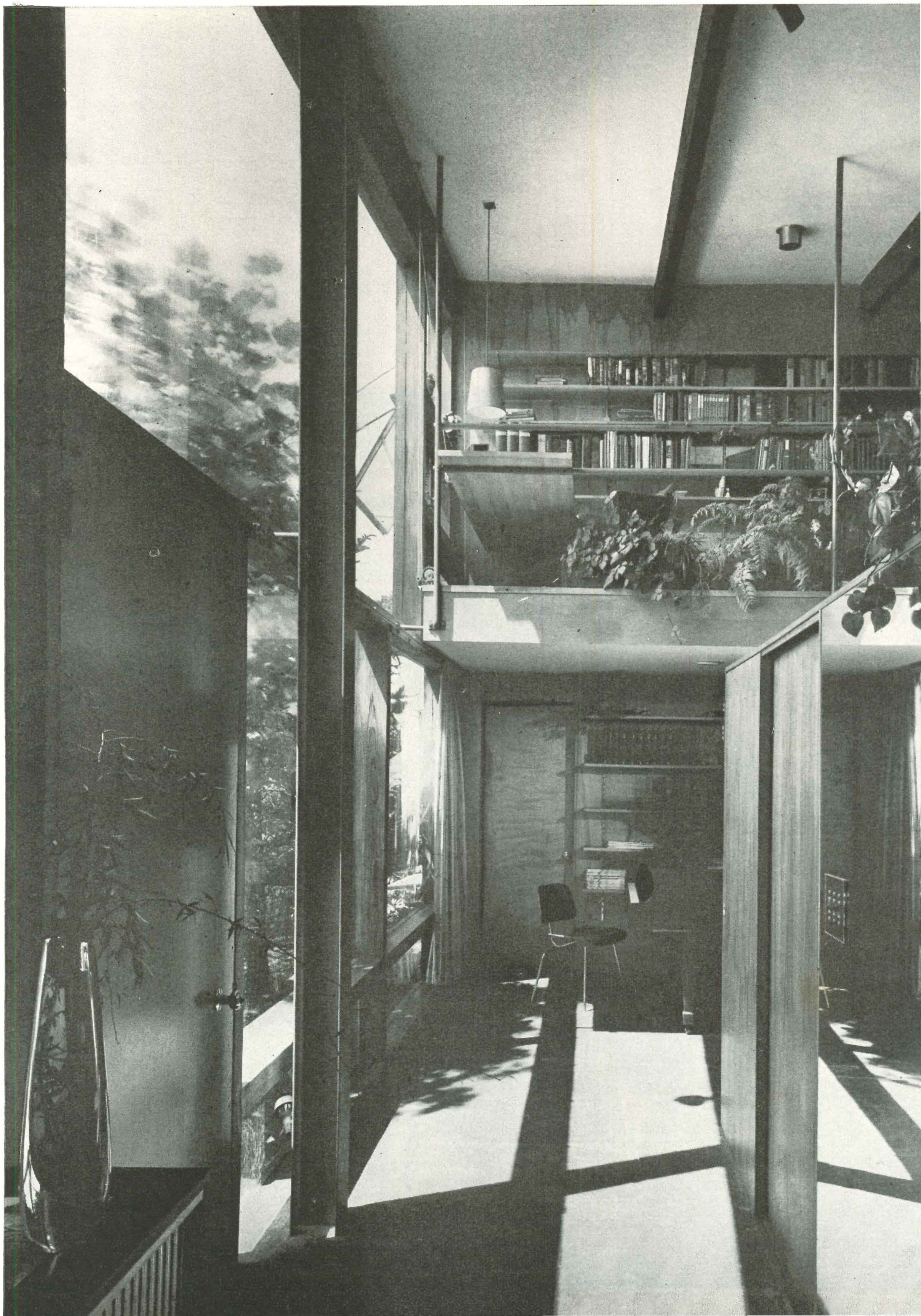


LOCATION: Sands Point, L. I., N. Y.

HENRY HEBBELN & WILLIAM DIEDERICH, architects

BALDWIN & MACHADO, prints
JEANNE REYNAL, mosaic

The one-room



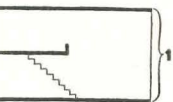
split-level house

advantages,

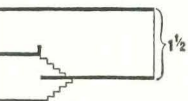
its excitement,

its problems

split-level houses are divided vertically in a proportion of 2 : 1 . . .



in a proportion of 2 : 1½.

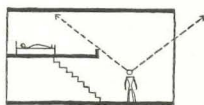


There are two basic advantages to one-room, split-level plans. First is the dramatic space relationships you can get. Here are a few:

a living area whose importance is emphasized by its greater ceiling height;

visual privacy between different levels; i.e., you can do away with most opaque partitions around individual rooms, for anyone on an upper-level gallery will probably be out of sight of anyone in a lower-level living room;

a great feeling of spaciousness because you can see all the ceiling plane of the house all the time, wherever you are;



and a succession of different views and of different space sensations *inside* the one-room house, and a succession of different views of the *outside*—depending upon the level where you are standing.

The second advantage has to do with the access if you are building on a sloping lot and the main entrance is on the uphill side, the 2 : 1 scheme fits the contours like a glove. (The 2 : 1½ scheme also fits a sloping site, but provides a living room oriented uphill.) The room 2 : 1 scheme will give you:

an upper-level entrance on grade; a lower-level living room on grade at the downhill end of the house;

an inexpensive space *underneath* the gallery (and between foundation walls) in which to tuck away services;

and a dramatic entrance view from upstairs across the 2-story living room and toward the outdoors.

One of the most spectacular trends in postwar residential architecture has been the increasing popularity of the one-room, split-level house, with all its possibilities for open planning in three dimensions. Men like Charles Eames, Mario Corbett, Don Emmons (Sept. '50, July '52, Feb. '52 issues, respectively) have found that this plan gives them added visual excitement, privacy without loss of spaciousness and airy volume at low cost.

The design shown on these pages is one of the newest—and one of the most exciting—solutions to the complex and numerous problems of the one-room split-level house.

This is the real excitement of split-level houses: you never feel boxed in. The interior space has a quality of expanding in all directions, up and down and across; it keeps adding up to new and more exciting interior and exterior vistas, to visual surprises, to fascinating interplays of planes, forms and volumes.

Moreover, the added volume over the living room is cheap cubage (Charles Eames spent \$1 per cu. ft. for his 2-story living room); and the visual privacy produced by changes in floor levels means that you don't need many partitions. Finally, the split-level house on a sloping lot can make excellent use of cheap cubage between foundation walls.



But split levels present no serious problems on flat sites either. The 2 : 1 scheme is, of course, most easily adapted to a level lot; but even the 2 : 1½ scheme can be made to work on such a lot without trouble. Its added advantage: stair runs are only half-flights.

However, the split-level plan does present two major problems: how to keep the living room from growing too tall for its plan (and thus looking like an airshaft); and where to place your entrance for maximum dramatic effect.

The tall living room is both the most attractive feature of the split-level house and its most challenging problem. In the 2 : 1 scheme, the living-room height is determined by two single-floor heights plus the thickness of the floor structure between them—which is likely to add up to 17'.

Since the living room is likely to have at least two walls that are less than 17' long, these walls will be taller than they are wide—a fact that can easily make the room seem like an overly high airshaft.

The simplest way of avoiding this is to slope the roof ceiling to cut down the inside height over the living area. The exact slope is determined in part by the clearance required at the balcony rail. The result is the sensation of a double-height living room with-

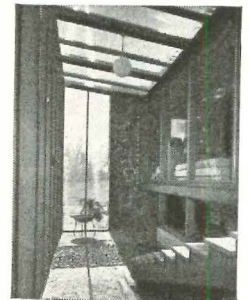


out the 2 : 1 scheme's overpowering height.

It is much easier to solve the living-room height in 2 : 1½ schemes, where it is determined by approximately 1½ single floor heights, plus the thickness of the floor structure—which adds up to only about 13'. In most houses, the living room is not likely to be narrower than that. However, the price you pay is burying the lowest level of the 2 : 1½ house partway in the ground.

The dramatic entrance is not an essential element of the split-level scheme; but it is easy to achieve in this type of house.

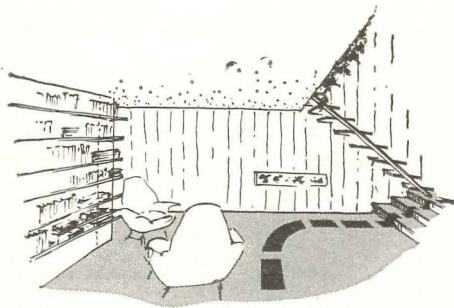
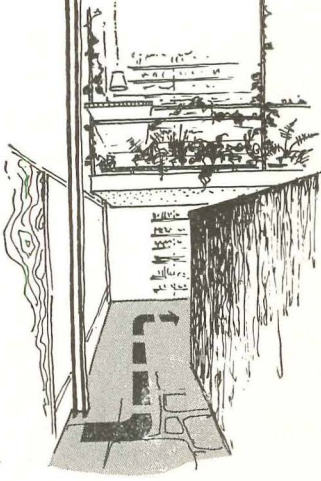
If you locate the main entrance in the tall living area, much of the element of surprise may be lost; for the whole concept will be apparent to the visitor even before he crosses the threshold. There are several alternatives:



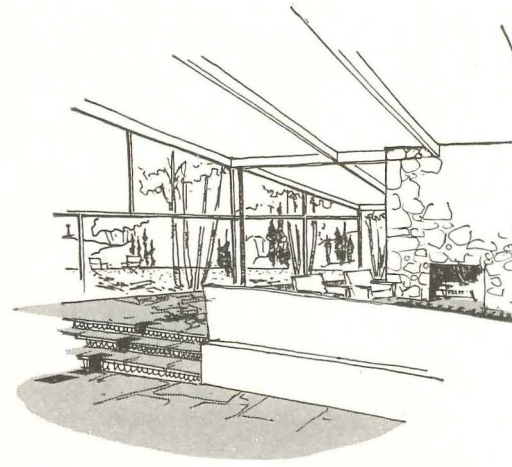
Entrance on the balcony is the obvious solution in a hillside scheme. It has a few drawbacks, however. To begin with, you do see most of the house soon after you have entered it. Next, you may have to place your kitchen-dining-utility areas on the balcony, tuck away the bedrooms under the balcony (where views and ventilation are likely to be less satisfactory). And, finally, you may find that walking downstairs into the living room, and then making an about-face to walk into the areas under the balcony produces a let-down.

Entrance under the balcony is easiest achieved on a level site. It has many advantages: first, it leads you into the house under a low ceiling, then brings you into the tall living space with a dramatic bang. Next, it permits you to place bedrooms on the balcony level where they have privacy, good views and excellent cross-ventilation. Finally, the scheme puts all daytime areas on one level (in the 2 : 1 section, at least), since dining-kitchen-utility spaces will be under the balcony.

The Hebbeln-Diederich house shown here is an excellent solution embodying the best features of both the 2 : 1 and the 2 : 1½ schemes. In the development of the one-room, split-level house, their design is a handsome landmark.



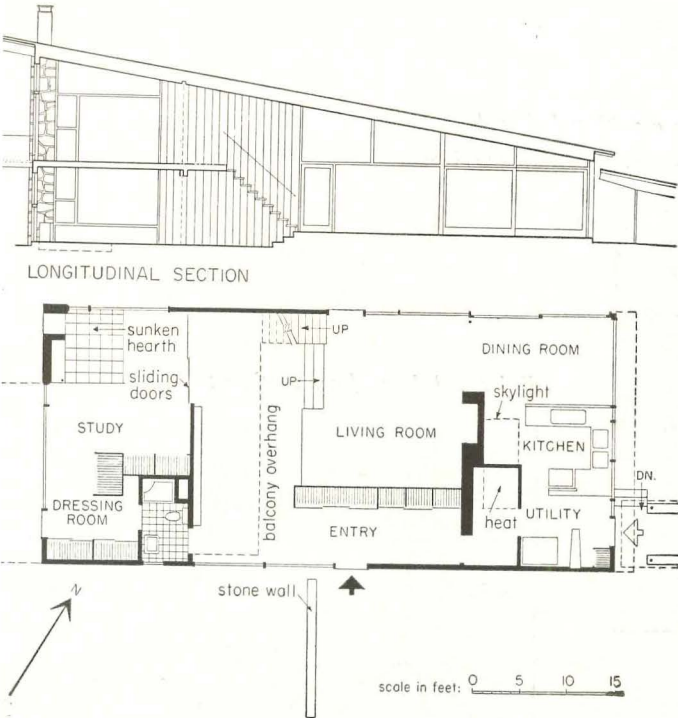
... you are now under the balcony. On turning right, you begin to sense the large space beyond ...



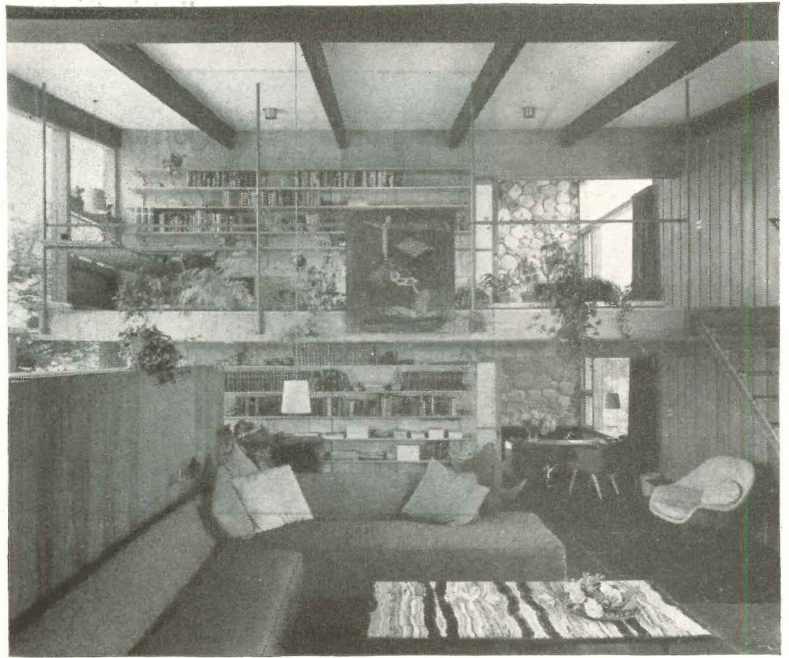
As you enter the house, you are faced by a free-standing closet and forced to make a left turn. The tall, narrow space and the balcony give you only an inkling of what the house is like ...

... upon walking out from under the balcony, you suddenly see the whole living area. Three steps lead up to floor level. Photograph below shows the handsome masonry of the fireplace, the view beyond.





Photos: Lionel Freedman



View from fireplace looking back at the two-level division to the southwest. Upstairs is a bedroom suite, work area and books; downstairs is a study-bedroom with its own bath and dressing area. Both levels have small fireplaces.

The Hebbeln-Diederich house is (more or less) a 2 : 1 split level. The balcony contains a bedroom, dressing room and bath; underneath the balcony is a study (with another dressing room and bath to make this an additional bedroom if and when the need arises). The tall space to the northeast of the two levels contains the main living, dining, kitchen and utility areas. The whole space—60' long and 26' wide, varying in height from 7½' at the northeast end to 18' at the southwest—is in effect one tremendous room, very lightly subdivided by levels, free-standing closets and the fireplace wall.

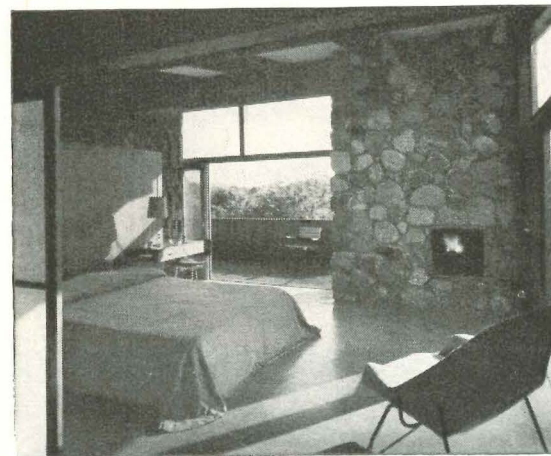
The architects solved the problem of the tall living room by dipping down their roof plane to make the room appear less vertical, more elongated. The angle of the roof was determined by the 7½' clearance at the balcony edge and by a similar ceiling height at the far, northeast end of the house.

They solved the problem of the dramatic entrance just as successfully: site and other considerations made it advisable to have the entrance door lead directly into the tall living-room space. But to keep you from seeing the entire space right away, Hebbeln and Diederich have screened the entrance door with a 6½' high, free-standing storage cabinet. As a result, you have only an inkling of what the house is like as you cross the threshold, are forced to turn to your left and pass underneath the balcony—and then, to heighten the drama, to walk up three steps before you see the whole, dramatic interior. This succession of space sensations is very exciting. The progression from a narrow and tall, through a wide and low and, finally, a few steps up into a large, double-height space is handled with tremendous skill and understanding of the essential elements of architecture—space and movement through space. (See Hebbeln's sketches at top of p. 122.)

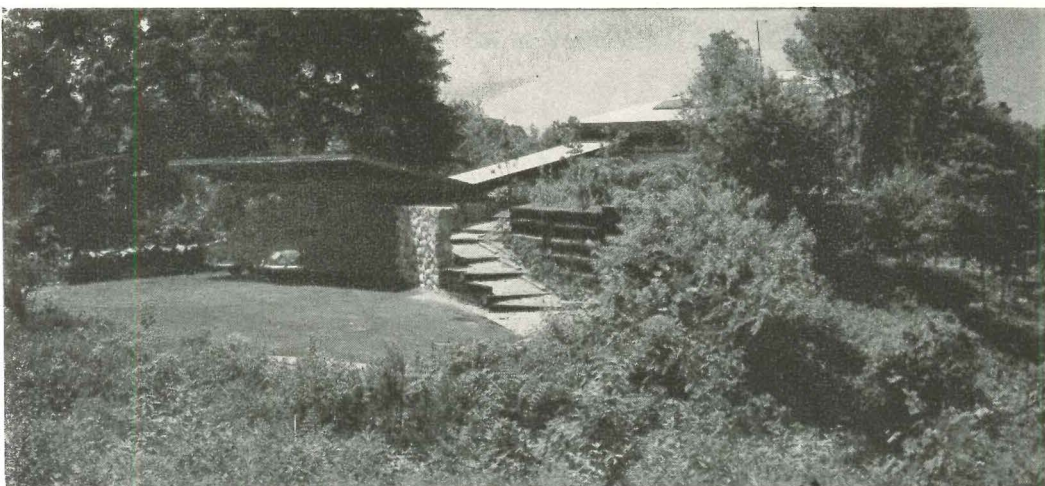
Upstairs this house has a writing desk and a wall of bookshelves that screen the bedroom (below).



Bedroom balcony faces southwest

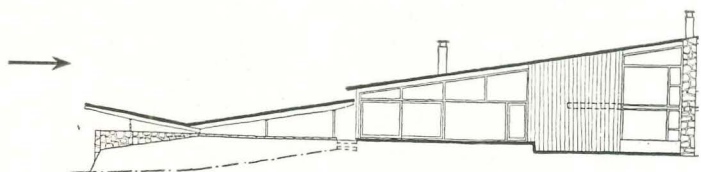


Downstairs, underneath the gallery, there is a study-bedroom. Like the one upstairs this has its own fireplace.



The site of this Hebbeln-Diederich house is a 5-acre sandy knoll sloping toward nearby Long Island Sound. As the picture above shows, there is a profuse growth of wild cherry, cedar, dogwood, sumac and honeysuckle. A tidal creek cuts the property in half; between it and the Sound is a flat strip of sand. The owners—a young doctor and his wife—located the site when they took a plane from New York, looked for the first rural area within easy reach of New York's hospitals, found the strip of sand and landed the plane on it.

The architects not only fitted their house closely into the contours of the little hill; they also demonstrated how a shed-roof house on a slope that parallels the pitch of the roof can be kept from looking as if it were about to slither downhill. By kicking up the roof over the half-buried car shelter (and thus reversing the pitch of the continuous roof line at the downhill end) Hebbeln and Diederich not only emphasized the importance of the main entrance to the house; they also gave the over-all form of their building balance and repose. This careful, three-dimensional site planning, together with the unpretentious detailing of natural materials, gives the house a wonderful sense of fitness in this pleasant landscape.



Opposite: View from the northwest of two-story house. Bedroom above, study below.



Alan Brockbank's firsthand report on **the Nation's slums** and what to do about them



NAHB's President Alan Brockbank

Homebuilding is our business, and that means it is our business to see that every American has a chance to have a good home at a price he can afford to pay. We members of the National Association of Home Builders recognize that this responsibility is ours, and we realize that this is one of the toughest challenges private enterprise faces today

Because we homebuilders recognize that challenge, I have made it my business as the Home Builder's president to visit the slums of almost every major city in the country, to talk to the people who live in those slums and to talk to the people who are giving their lives to improve conditions there. I have seen the slums of Washington, Baltimore, Charlotte, Philadelphia, New York, Boston, Detroit, Chicago, Dallas, Indianapolis, Los Angeles, Houston and many other cities. And let me say right away that much of what I saw was shocking, and no American, no matter how poor he is, should have to live the way I saw some people living in every one of those cities.

But seeing these conditions first hand was not just shocking. It was also very revealing, and I learned three very important things about slums and how to provide better housing for low-income families:

1. You can't eliminate slums unless you take the profit out of slum ownership

The cities which are cleaning up their slums fastest are not the ones spending the most local and federal tax money to build public housing. In fact the fastest progress that has been made by any city is that made in the city of Pasadena with its operation "junk yard." Under this plan, which was entirely a local operation, a complete study was made of every structure within the city. Those that were in poor condition beyond renovation were torn down. Those that could be repaired were repaired and put in good condition; and the whole operation was performed at low cost.

Another city that is making excellent progress and one which has very little public housing, is a city with a large Negro population,

Charlotte, North Carolina. In 1940 a survey showed 11,589 standard dwellings in that small city. A five-year attempt to clean up this menace through public housing reduced this number to only 820. Then the Charlotte Real Estate & Management Association took the problem in hand in cooperation with the City Planning Commission and the city government and put through an order forbidding such substandard housing. As a result, 7,987 of these substandard units have now been rehabilitated; 817 have been demolished as unfit for human occupancy. By the end of another year it is hoped that there will not be a substantial number of substandard dwelling left. All this has been accomplished at the expense of the landlords instead of the taxpayers.

I believe in free enterprise and the profit incentive, but in a Christian country there is no excuse for anyone being allowed to make a profit from human misery, and there is no reason why a landlord should be allowed to make a profit renting substandard homes that are not fit to live in. There is no reason why the taxpayers should be saddled with the cost of slum rehabilitation to protect the slum landlords' profits.

Actually, the landlords who improved their property in Charlotte are now finding their property more profitable rather than less, for they were allowed a small increase in rent to amortize the cost of the improvement, and the tenants have been able and glad to pay the necessary increase. Landlords in Baltimore had the same experience: they are making more money on their property after making it fit to live in than before.

2. You can provide low cost housing a lot more economically by modernizing old dwelling units than by building new ones

Of course, there are many old buildings that are past repair and the sooner they are torn down the better. There are many slums that never were anything but shacks and shanties, and the sooner they are wiped out the better. But in many cities thousands of slum houses are just as well built as the new public-housing units to replace them are likely to be. When I visited what was supposed to be one of the worst slum areas in Boston, for example, I found that most of the buildings could easily be renovated into fine, lasting dwellings with many, many years of usefulness, to require only a very reasonable figure.

Not long ago, I read that three New York City blocks were

down to make way for public housing. The newspapers said people in those blocks were living in squalor. I decided I had to see for myself, so I went to New York and took a look, and I talked to many of the people who lived there. None of them wanted to give up their homes. I saw no evidence of the filth and squalor I had been told to expect, and I was amazed to find that most of the dwellings were fine old apartments, which could easily be put into excellent condition for \$1,500 to \$2,500 a unit.

I do not believe any nation is rich enough to tear down such old built buildings to replace them with new dwellings erected at the taxpayer's expense.

Somebody will make a lot of money out of tearing down those old buildings and replacing them with high-cost public-housing units. In fact, somewhere or other the profits on public housing must be greater than the profits on private housing, because public housing costs a lot more in proportion to what it provides. Many members of our association could, if they wished, get in on those bigger projects, for their experience qualifies them to do a better and more economical job on public housing too. But practically all of us are opposed to public housing because in the long run we believe it is not fair for the country to have the government charge the taxpayers a job that should be handled on a free-enterprise basis.

At the most important thing I learned from my visits to the slums is this:

You can't eliminate slums just by tearing down old buildings and replacing them with new ones

The problem of slums is not just a problem of buildings. It is really a problem of people, and it just isn't true that you can get rid of people just by spending a lot of money to offer them a better place to live. For example: in Dallas when the housing authority paid up to \$8,000 a shack to buy up a war-built shantytown, the people of Dallas begged for a chance to buy the old shacks so that they might move them over the city limits and rebuild the shantytown.

And in Los Angeles the police traced not less but more crime, juvenile delinquency, and more calls for charity per family than new public-housing development for which the taxpayers had spent millions of dollars, than they found in an old slum nearby.

On the other hand, in Washington I have seen a whole decaying neighborhood taking inspiration from the example of one fine Italian family who moved in among them—a family who could not afford a nice house in almost any neighborhood, but who managed to live on Old Capitol Hill because they wanted their two children to grow up knowing the problems of the people on the other side of the tracks. When this family began improving their house, first the children, then the teachers, then the parents took up the idea. The school introduced into its curriculum a daily discussion of blighted-area needs and cures. The children formed an organization called SCROOCH—The Students Committee for the Restoration of Old Capitol Hill. During one spring vacation the youngsters repainted and repaired six old houses. People of all creeds and colors began meeting in Christ Church to discuss how they could restore their neighborhood to a fine condition, and they created a climate where this could be done, and the whole area has begun to take on new life and a new look—and without a penny of help from outside and without anybody being moved to a new individualized dwelling.

In Baltimore you know the story is the same, especially in the neighborhood where some young people from the little Church Brethren in Chicago are showing their neighbors how to have better homes. When this congregation learned of the zeal with which Yates Cook was working to clear up the city's blight they

asked him to find the worst home in the worst slum in Baltimore, buy it for them and help them find the materials to renovate it. In this house the Brethren now have their mission. They have pictures on the wall of each room showing how bad it was before they made it over, and also pictures showing the terrible conditions in the rear yard. Now they take people from the neighborhood through and show them how clean, sanitary, and safe and attractive even the worst old house can be made. They teach the people how to do the needed repairs themselves. More important, they teach them how to live.

I know how successful this work has been, for I visited a block of houses that was a rock bottom slum five years ago, but in which today the people live in clean, sanitary conditions. I went into the houses, and I can assure you they were as clean as many hotel rooms I have stayed in this year. I was told that some of the families in this block had won prizes for their excellent gardens two years in a row, and now some of them are buying their own homes.

From all this I have learned that the reason for slums is neglect—neglect in keeping up the dwellings, and neglect in the training of people

I have learned that vigilance in making landlords keep up the property and vigilance in the training of people in how to live in a home are both local problems. This first requires laws governing minimum requirements of health, sanitation and safety. When these laws of minimum requirements are enforced, the people will learn how to live and maintain themselves in clean sanitary conditions.

And now I believe that it is time to propose a new face for America—a six-point program vast in its scope to enable every American family to live in a good home. This program calls for an evolutionary process, not a revolutionary one. It will take time to complete. It will require that a climate be created in which this plan can be carried out.

By this I mean that unless the churches, the service clubs, the women's clubs and the business people clearly see the importance of good clean, safe homes this six point program will have a hard time succeeding. But if they do get firmly behind this housing program, it can be accomplished with joy and satisfaction to all.

This is our six point program:

1. *Every community must require of all landlords that their housing meet minimum standards of health, safety and sanitation;*
2. *Every community should launch a vigorous program of clean-up and paint-up;*
3. *All property found to be structurally unsound should be immediately condemned, vacated and removed in accordance with a city wide plan;*
4. *Where whole areas are found to be beyond repair, the buildings should be demolished under city authority, with a complete plan for writing off the cost over a period of years through local taxation;*
5. *A direct subsidy plan should be developed through the welfare agencies to help people who cannot afford to pay for proper housing. This should be done entirely on the basis of need, and the welfare agencies should insist that these contributions will be made only when the family so aided is in clean, safe, sanitary housing,*
6. *All segments of the building industry must immediately and vigorously attack the problem of developing lower-cost housing for rent and for sale.*

Research – an open “Trade Secret”

At NAHB's fourth 1952 “Trade Secrets” meeting builders learned

how research laboratories are solving homebuilding problems

Among those present:

Albert Balch, Seattle, Wash.
Martin Bartling, Jr., Knoxville, Tenn.
Irvin A. Blietz, Evanston, Ill.
Marcus Bogue, Jr., Denver, Colo.
Alan Brockbank, Salt Lake City, Utah
Laverne Bumeister, Janesville, Wis.
Franklin Burns, Denver, Colo.
Pat Burns, Los Angeles, Calif.
Lou Carey, Denver, Colo.
Ned A. Cole, Austin, Tex.
Frank A. Collins, Chester, Pa.
Thomas P. Coogan, Hiialeah, Fla.
Leonard Haeger, NAHB, Washington, D. C.
John Highland, Jr., Buffalo, N. Y.
Floyd Kimbrough, Jackson, Miss.
Fred Meager, Upper Darby, Pa.
Joseph Orendorff, HHFA, Washington, D. C.
Andrew Place, South Bend, Ind.
Thomas W. Poore, Midwest City, Okla.
S. G. Pearson, Minneapolis, Minn.
Frank Robertson, San Antonio, Tex.
Harold Rosendahl, Minneapolis, Minn.
David Slipher, Los Angeles, Calif.
C. W. Smith, San Antonio, Tex.
Herman York, Jamaica, N. Y.
Glenn Webermeier, Beloit, Wis.

If you had been a member of NAHB's fourth 1952 “Trade Secrets” meeting at Chicago and Madison, Wis., you would have learned:

1. *Better concrete* and drier concrete blocks can eliminate many cracking slabs and leaking foundations.
2. *Popping nails* are usually caused by green wood.
3. *Paint failures* on exterior siding can be minimized by adequate overhangs.

If you had attended the three-day session you would have seen science and research at work solving common homebuilding problems at the Portland Cement Association's Laboratory and the Department of Agriculture's Forest Products Laboratory. And you would have taken part in the “Trade Secrets” round table, conducted by NAHB's President Alan Brockbank.

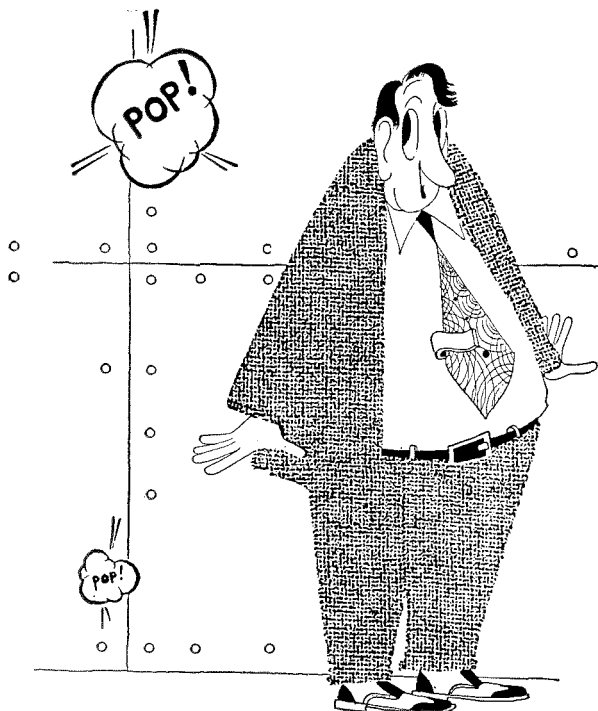
Prescription for good concrete

The cement technicians showed the builders the unhappy results of too much water in concrete and concrete masonry units. Many of the cracked foundations that have plagued builders have been due to shrinkage of too-damp building block or poor concrete.

Advice: Keep the water/cement ratio between 5½-6 gal. per sack, and use air-entrained concrete (made with a wetting agent similar to household detergents) wherever there is a freezing and thawing problem.

“Pop” go the nailheads

The vexing problem of nail “popping” that has been the curse of drywall plastering is caused in almost every case by the shrinkage of the wall away from the nail, not nail movement. Framing members, too green when erected, contract and the nailhead then pushes off the coating of “mud” and appears on the surface of the wall. This necessitates all the nails being set again, covered, then the wall redecorated. *Advice:* Only recommendation the laboratory could make to builders on how to lick the popping was to urge them to “demand” well-seasoned lumber. In no case should they use wood with a moisture content of over 19%, with the optimum figure for most areas about 12%, and ranging downward to a bone-dry 5-7% in regions of exceptionally low humidity. Best friend the builder could have, they intimated, is a moisture meter for spot checking the water in incoming shipments.



“Guinea pig” house:

NAHB's Alan Brockbank

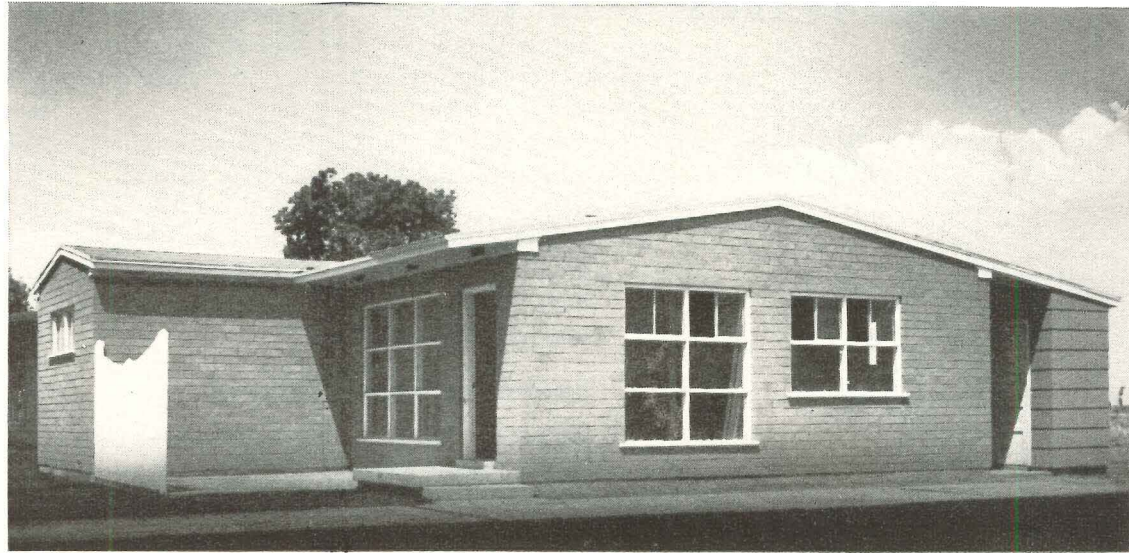
tries to incorporate ideas

cleaned from “Trade Secrets”

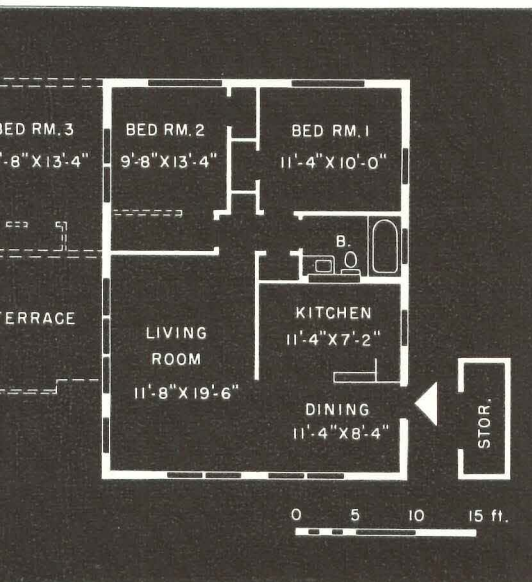
in 1952 model house

but meets official disapproval

on some innovations



Joern W. Gerdtz



Like any other builder, NAHB President Alan Brockbank ran smack up against the local code when he and his architect developed this “Trade Secrets” model house to bring Salt Lake City the best new ideas exchanged at the NAHB Trade Secrets meetings.

His troubles started at the bottom—the foundation. Salt Lake City’s code permits slabs without perimeter footings if the soil is of a certain compactness. Four successful tests had been made in the subdivision, but when Brockbank submitted his plans, the building department demanded that a test be made of every single lot, a cost impossibility.

Brockbank then wanted to use the crawl space as a heating chamber, a feature of the first “Trade Secrets” meeting (Dec. issue ’51), but was turned down by the city heating engineer be-

cause it was not approved by National Fire Underwriters. He then turned to a warm-air system with economical 3” ducts. This was approved, then disapproved in favor of 4” ducts. A third change brought them to 5”, and the final plans found Brockbank using the customary, wasteful 7” duct.

He was able to include some improvements suggested by the 1951 Trade Secrets meetings, however. Among them:

- ▶ Storage walls and built-ins made in his own mill, *à la* Martin Bartling;
- ▶ Roof trusses, with wide (3’) overhangs;
- ▶ A simplified plumbing tree, back-to-back plumbing;
- ▶ All windows built up from multiples of one 24” x 36” unit;
- ▶ A floor plan that provided for the addition of a third bedroom at minimum expense and trouble.

dry I’m not

er was named cause of yet another builder headache— or paint failures. But a surprise to all was Forest Products’ nce that winter condensation was not guilty of most of the s, but rather water which had been driven under the siding yllary action. Experiments are showing that the best paint o not provide a perfect seal, especially when water can he entire side of a house wet during a rain and lodge in s.

: Wide overhangs, which shelter siding from all but the st driving rains, offer the best solution as they will reduce ry water to a minimum.

research

ers on the strength and rigidity of various types of fram- d joint nailing brought out these points: e toe-nailed joint, contrary to popular opinion, is an excel-

lent joint and resists both lateral and vertical stress to a high degree *if* the ends of studs and joists are square and fit the plate well. End nailing is not so strong.

2. For an almost universally liked and efficient floor stiffness, a good rule of thumb is “don’t let the deflection exceed 1/360th of the span.” More, and customers complain of the “springiness.” Less, and the cry is likely to be, “It feels too hard.” Glued laminated panels are strongest, but are not adaptable to field gluing and, for many people, give too rigid a floor.

3. Spaced diagonal sheathing will permit 24” o.c. studs, with a lumber saving of approximately a third.* The diagonal should be a full 45° and extend from top to bottom plate to get full strength. Picture windows interfere seriously with this bracing and cut the strength of the wall.

* Though FHA will accept this construction, most local codes will not. In addition, spacing and cutting of diagonals takes more time, may eat up any saving.—Ed.

**BUILDERS
KEEP OUT!**
BY ORDER
TOWN PLANNING COMMISSION



Alan Brockbank: "The success of our warranty program will depend in great measure on the willingness of manufacturers to stand behind the products we guarantee. If we are to guarantee our houses, we must be backed up by the makers of the component parts. And it has to be a stronger statement than the usual, 'If in our opinion, our manufacture was at fault,' which some equipment companies seem to think is enough."

Excessive improvements

Al Balch: "We have all been competing against each other for land and have driven the price of that land out of sight. In addition, the builder is the victim of a constant upgrading of all facilities and improvements by various governmental agencies, which ask for more and more amenities. We are being forced to move out of town, to sections where fewer improvements are demanded."

Frank Collins: "We think the solution to high land costs might lie in zoning land for several uses, rather than just residential. We recently bought a 600-acre tract and had 250 acres zoned for industrial use. More and more small communities are looking at industry favorably as a method of broadening the tax base."

Fred Meagher: "We're also running into opposition from communities that do not want to see us build within their limits, because of the load that several hundred, or thousand, new families throws on municipal services, especially schools. These communities are trying to zone us right out of their towns with impossible frontage and lot size requirements."

Al Balch: "In Seattle, the cost of land has made the \$7,000 house an impossibility."

Dave Slipher: "Will our system continue to support the waste of land we have been indulging in, with the present cost of subdivision and municipal improvements? Maybe the answer lies in smaller, not larger lots, and in better design to give us the privacy and feeling of spaciousness we want in our homes."

Good design builds good will

John Highland: "We have not even begun to exploit the good public relations of

a well-designed house. NAHB should drive home to its members that if their product is made superior to that of nonmembers, the public will insist on the better product and all builders will be clamoring to join NAHB. That good design can come from only one source, a good architect who knows builders' problems."

Herman York: "We have been using the inquiry system to determine the preferences of the public. Recently, we offered two plans in a nationwide syndication, one with a basement, one without. In spite of the fact that the slab foundation house offered extra storage space to compensate for the lack of below-grade space, and a larger house, 71% of those responding wanted the plan with a basement."

Ned Cole: "Good design can never get the acceptance it should have as long as lenders and FHA give the highest valuation to mediocrities that conform to their minimum requirements. We need either an FHA premium for good design or an FHA penalty for bad."

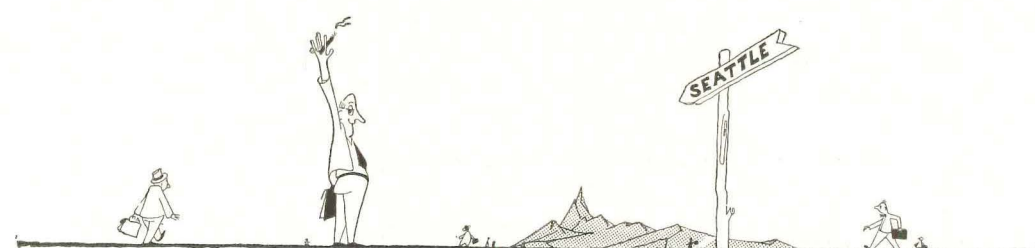
Homemade houses

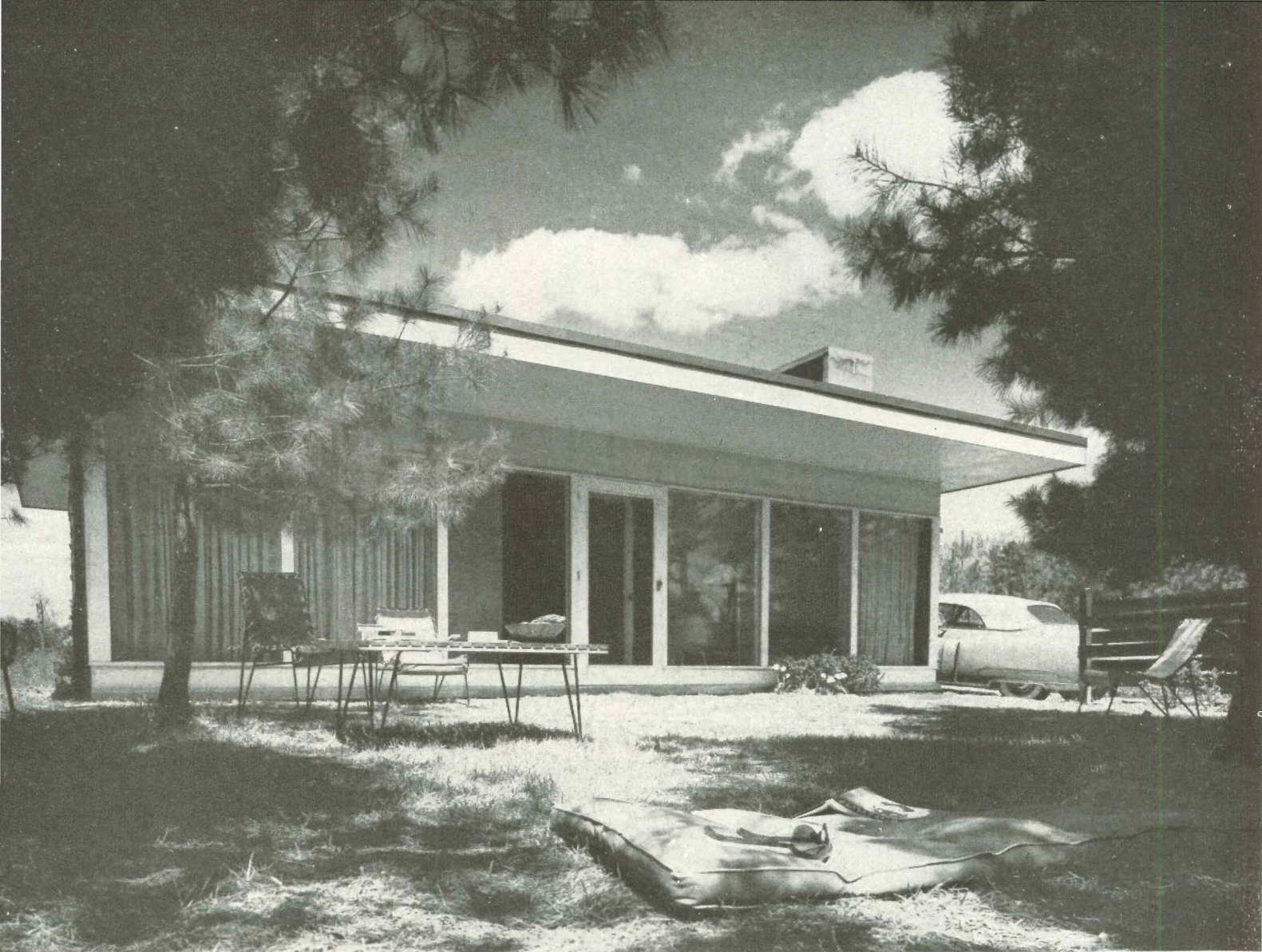
Alan Brockbank: "Everywhere I go, builders ask me, 'Who's building all the houses? I'm not.' What we are finding out is that a great number of houses are being built by their owners. Some are doing their own work, others are acting as their own contractors. In St. Joseph County, Ind. (South Bend), a survey showed that over half of the houses being built were not being built by a merchant builder. We should be selling this market."

Floyd Kimbrough: "There's a problem in educating the public that building their own houses is not cheap. There is nothing more expensive than the board-at-a-time buying of building materials."

Handyman-owner

Andy Place: "We have saved \$50 on our grading and seeding through the use of farming tools and small tractors. All the equipment costs only \$3,000 and it's perfect for the job. We also give a complete kit of small tools to each new homeowner, together with an explanation of how to use them for little repairs that come up during the lifetime of a house. We think this will keep our repair trips to a minimum."





Photos: Damora

APARTMENT-SIZE HOUSE

The trim little house you see above is essentially a one-room studio-apartment set down in three acres of pine woods. What sets it apart from either the average apartment or small house is the way it:

- handles space to make 850 sq. ft. look a lot more;
- provides for growing larger gracefully;
- counters the climate the year round;
- points up the difference between a small house on a big lot and a small house with big-house pretensions.

Space intact

Architect Henry L. Blatner did not constrict the small space further by hashing it into tiny rooms. Instead he opened up the whole house except the bath and utility rooms (*plan p. 132*). These he shoved into corners flanking the open kitchen to complete a 7'-wide service block. The rest of the house is subdivided only by a couch, two storage units and a partial partition. Couch and

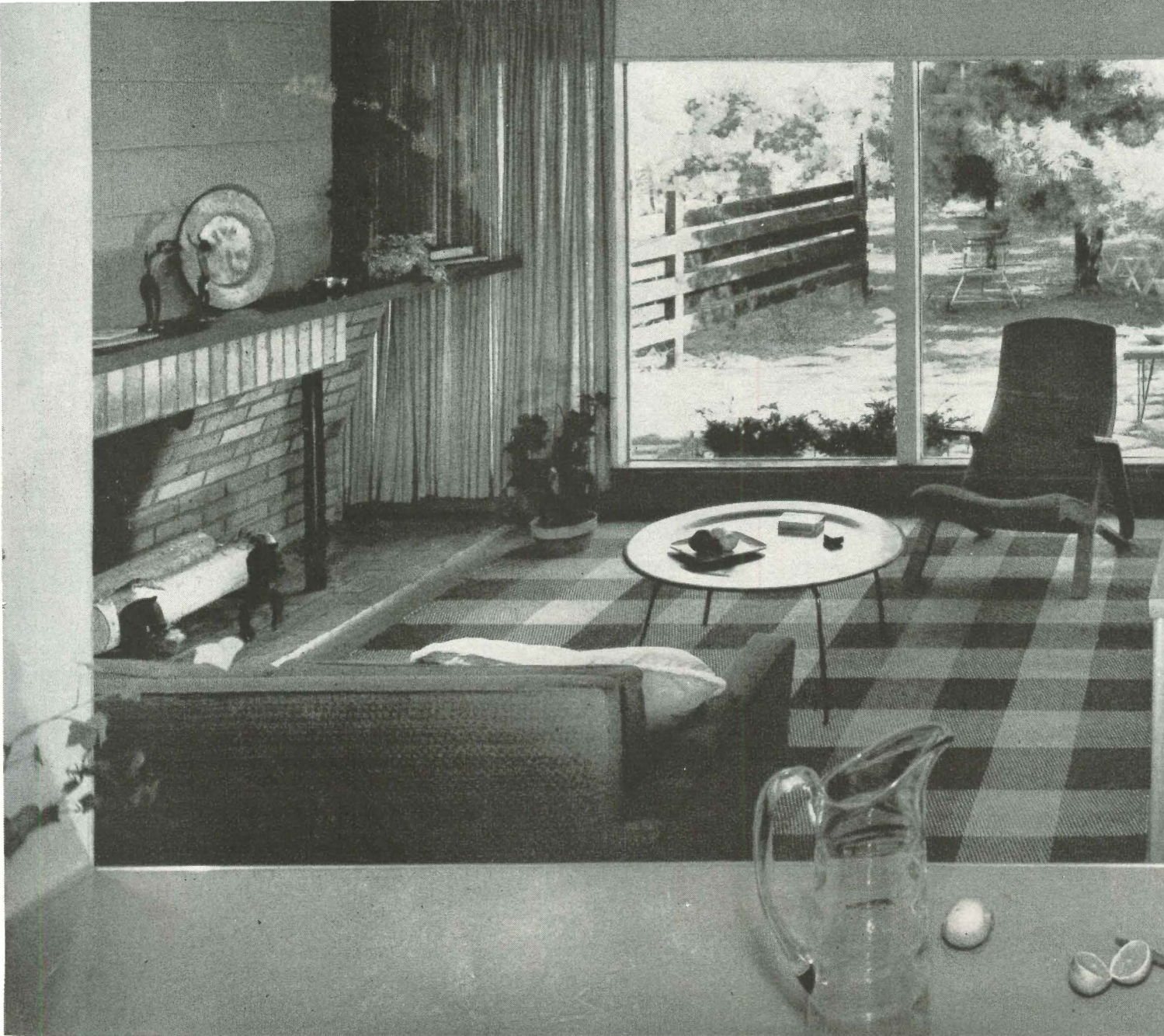
coat closet establish a foyer while the storage wall sets off the sleeping area and deflects the eye away from the bathroom. The abbreviated partition screens the dirty-dishes section of the kitchen. Because of this arrangement, there are only two doors in the whole house and wherever you stand, you sense its full extent.

Room to grow

If and when the owners decide they want more room, they can expand the house without living in sawdust during construction or winding up with a house that has outgrown its services. All the present facilities—bathroom, boiler and kitchen—are ample to serve a two-bedroom house. This is the way the addition would connect up:

- ▶ the west window of the sleeping area would be removed to let you enter a bedroom hall running north and south;
- ▶ the new hall would connect directly with the bathroom through its west window and the present door would be closed off;
- ▶ the living room would then extend across the full 30' width of the present house.

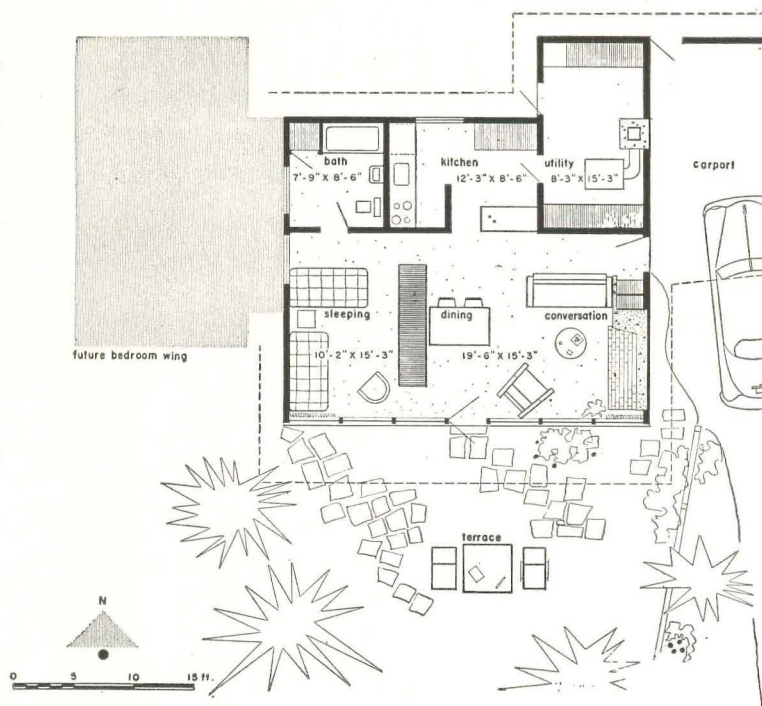
LOCATION: Slingerlands, N. Y.
 HENRY L. BLATNER, architect
 CHARLES WILEY, contractor
 GEORGE TEELING, consulting heating engineer

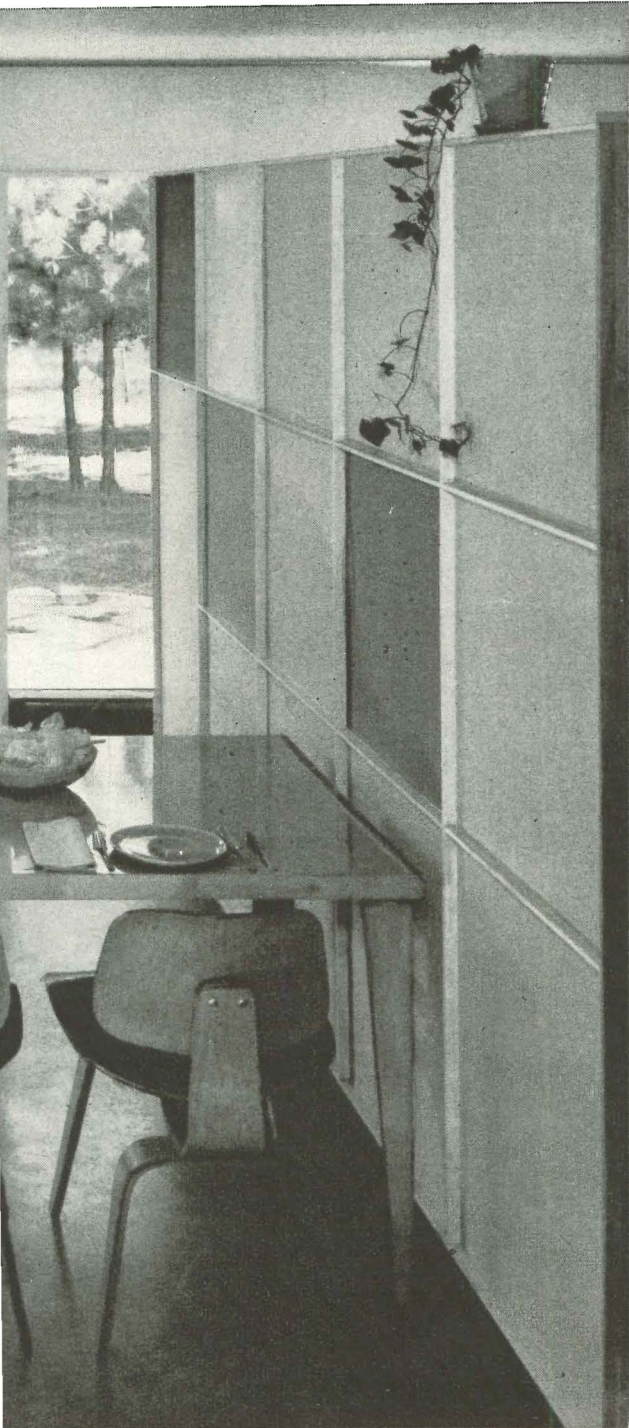


Year-round comfort

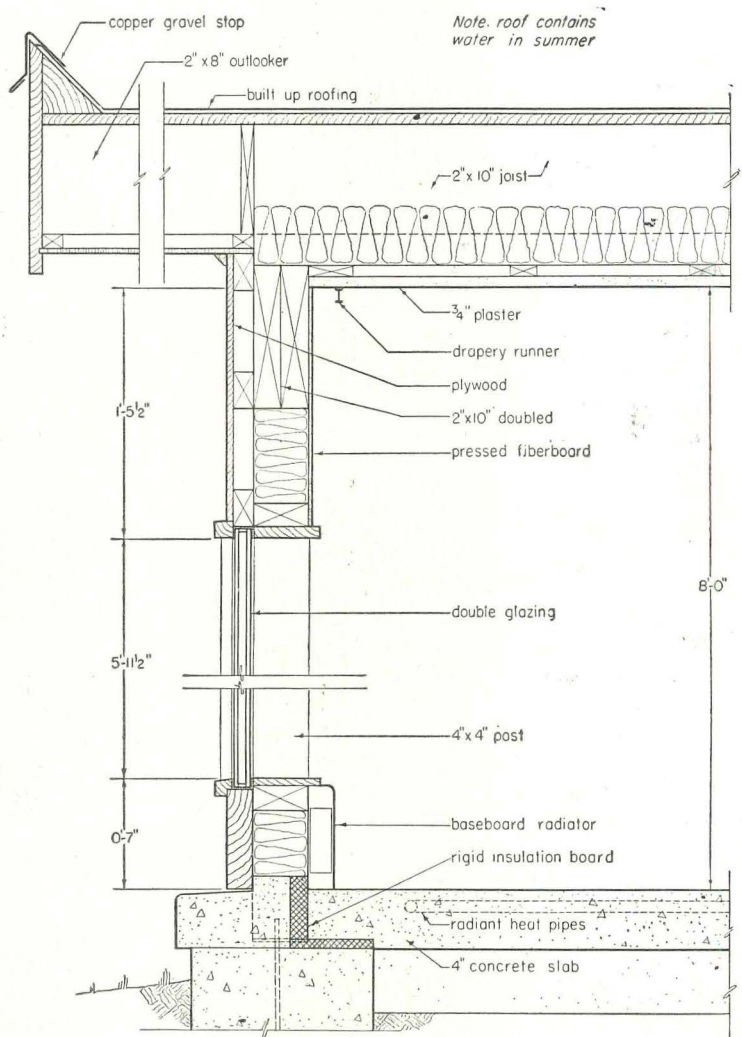
Despite its diminutiveness, this house manages to envelope the daily rounds with more solicitude than the average full-size house even attempts. The Albany area has rousing snow-filled winters and humid summers which a well-tailored heating system and careful design for coolness help to mitigate. For heating, the house has a radiant floor, baseboard radiators under the double-glazed southerly window walls, plus a fireplace to dispense psychological warmth. For summer comfort, the roof is flooded with a heat-reflecting sheet of water and the eaves overhang 2' to 5' as sunshades for the windows. Surrounding pines act as a screen against sun and glare and their color is refreshing. A spot for an exhaust fan was built into the fireplace chimney alongside the flue but natural ventilation has been sufficient to keep hot air from settling in soggy pools.

Except for the window wall the house is made of conventional stud framing sheathed in plywood with battens closing the joints. Beams run north and south spanning from exterior walls to the east-west partitions of the service block. Floors are asphalt tile or exposed colored concrete; walls are plaster, plasterboard or plywood.



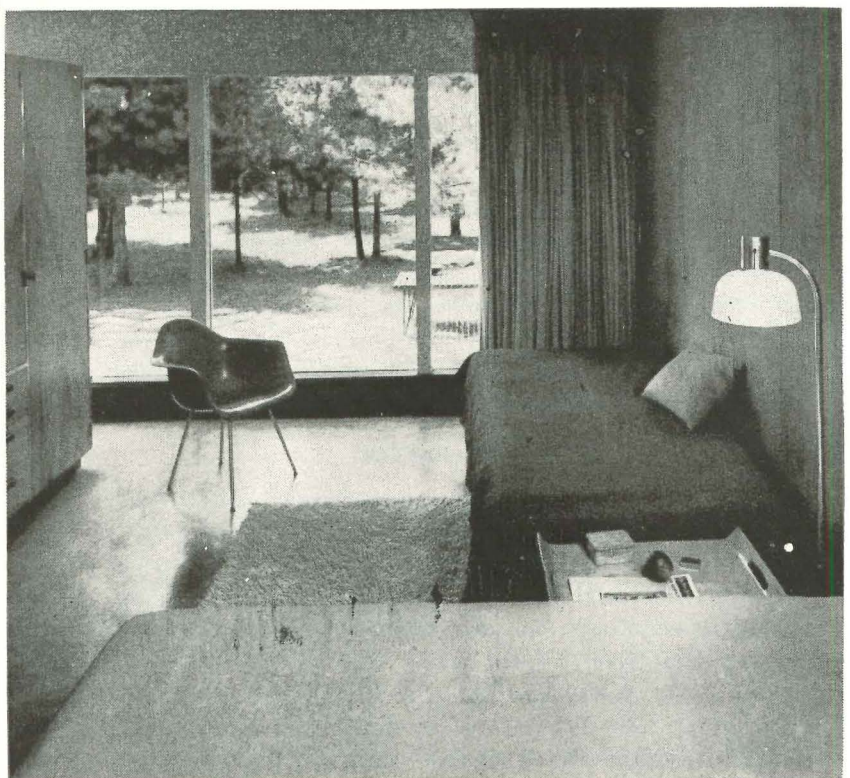


servicing counter, above, links the kitchen to the living area. Visually, the south wall of the living area isn't in the house at all but consists of a stand of a terrace-width away. Curtains are bright yellow green in the sleeping area).



In addition to radiant coils in the floor slab, there are baseboard radiators which prevent heat loss through the window wall when the sun isn't shining. At the jambs, the fixed double glass butts against a 2" x 1 3/8" strip and is covered by a 1" x 4" trim board acting as a batten.

Birch storage wall, right, with its backing, top photo, squared off in panels of primary red, yellow and blue on a pale blue ground, sets the high color key of the living area. Sleeping area colors are deeper, set off by a mahogany wall.





Ferryboat house that packs punch beneath a casual co

LOCATION: San Francisco, Calif.
 WURSTER, BERNARDI & EMMONS, architects
 ARTHUR W. BAUM, contractor
 THOMAS D. CHURCH, landscape architect

This is a deceptively casual house. At first glance it looks like a ferryboat run aground; at second glance it turns out to be as plush as any broker's yacht and full of studied contrasts and well-ordered surprises. It is an almost militant expression of the San Franciscan urge to live well without show. The public apparently likes it for it was one of the most popular houses included in the recent AIA tour of new Bay Region houses.

Change of pace on a strait-jacket lot

It took some shipshape planning to accommodate the owner's requirements without stacking up rooms in deadly monotony. Space had to be found for a household staff of three, a collection of paintings, 5,000 books and more to come (since bookbinding is the owner's avocation). She also surrounds herself with people as many as 24 at dinner. Pitted against these demands were the dictates of a site as uncompromising as the worst the city-on-a-slant can offer: long and narrow, it drops off sharply in two directions but is accessible from three sides and has an incom-

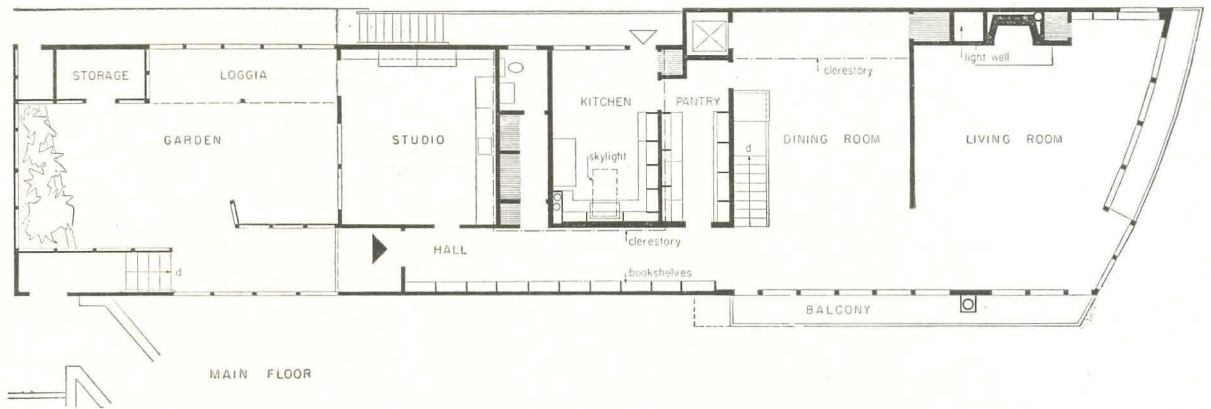
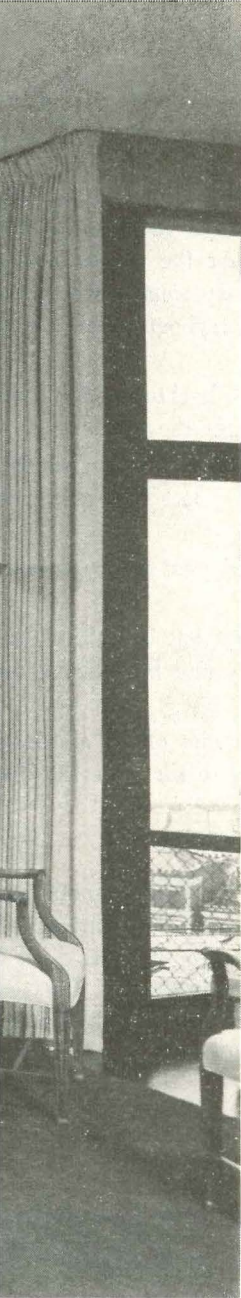
parable harbor view. The architects, Wurster, Bernardi & Emmons might have fanned out the rooms along the arc of the corner and connected them to corridors running along the side of the house on the two main floors. Instead, they chose to alternate the location of the halls (sacrificing 34' of street-side exposure) and therein lies the surprising variety (as well as a complex top-lighting) you find within the house:

—The living room is entered along the window wall, enjoys the full arc of the 90° view, but also has two solid walls creating a fireside corner

—The owner's bedroom, directly below, reverses the living-room arrangement, is entered from the closed side and encompasses both fireplace and view in one field of focus;

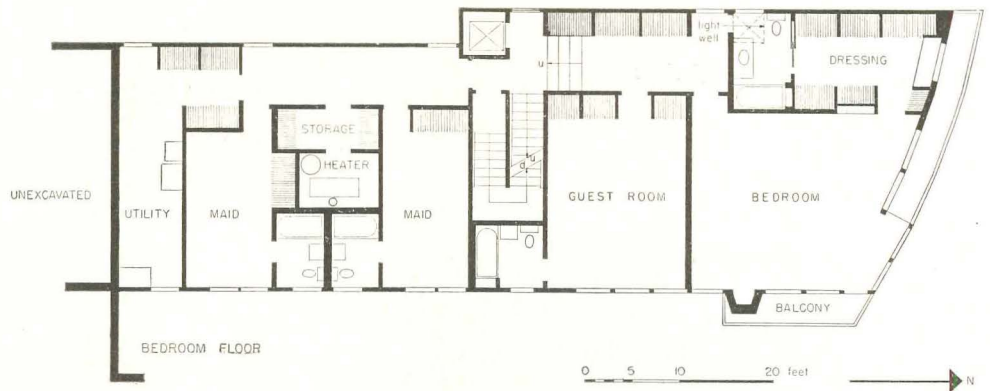
—The dining room concentrates on the bounties of the table, drawing ten feet from the view;

—The studio lives in isolation with its private garden but here the opaque glass garden screen has one transparent section framing a glancing view alongside the next house.



The living room, left, divides its focus between the teak and marble sitting area and the harbor view. Beth Armstrong was the decorator.

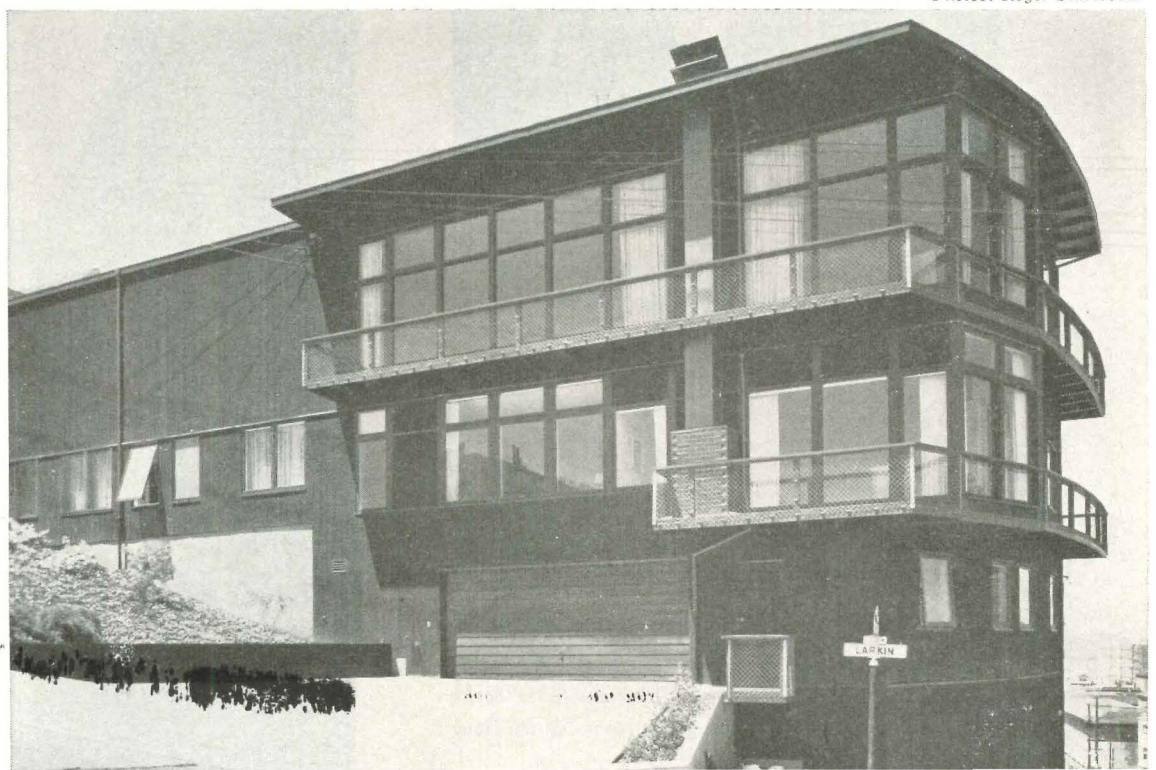
The top floor, above, foregoes 34' of easterly exposure for the sake of a dramatic entrance hall. Clerestories help balance light in studio and dining room, are the sole source of daylight in hall and pantry.

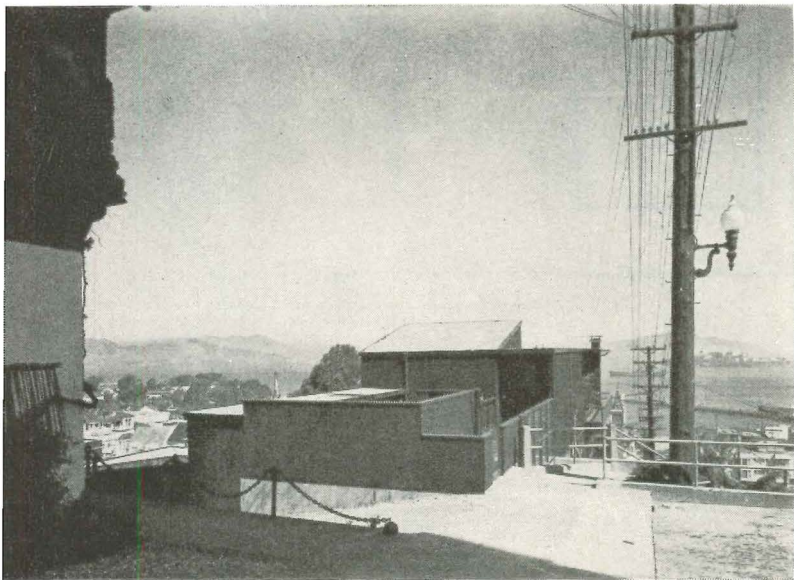


Below, instances of apparent nonchalance: the random-spaced porthole windows; the fireplace bricks on corner of the balcony; the unconcealed chimney flue and drainpipe; the cantilevered porch beside the garage door. Try doing them otherwise, and they begin to make sense.

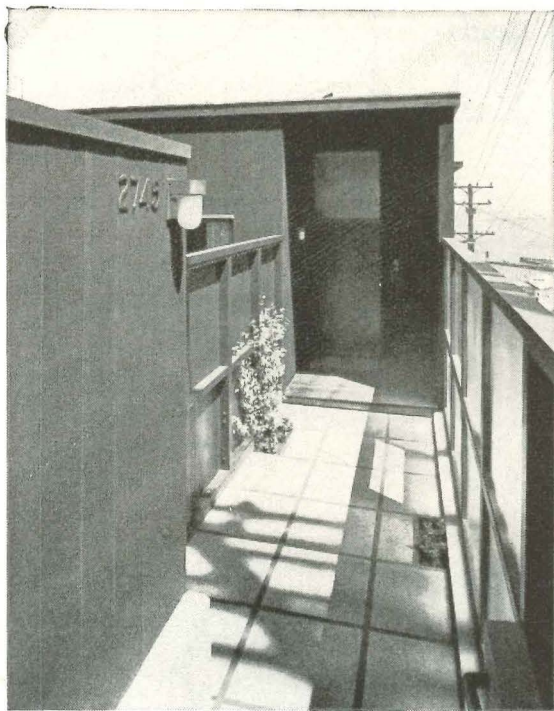
Stepping down the 20° hillside (plan above), bedrooms are on the floor below the entrance, garage and cook's rooms are on next floor down, and the lowest level is unfinished.

Photos: Roger Sturtevant





*From the street above,
the house looks like a modest flatboat
docked in the harbor.*



*At the front entrance,
a concrete gangplank affords a last harbor glimpse
and leads you toward the unassuming front door.*

*Inside, a teak-walled, top-lighted corridor
propels you past 35' of books
toward the living room and the view.*

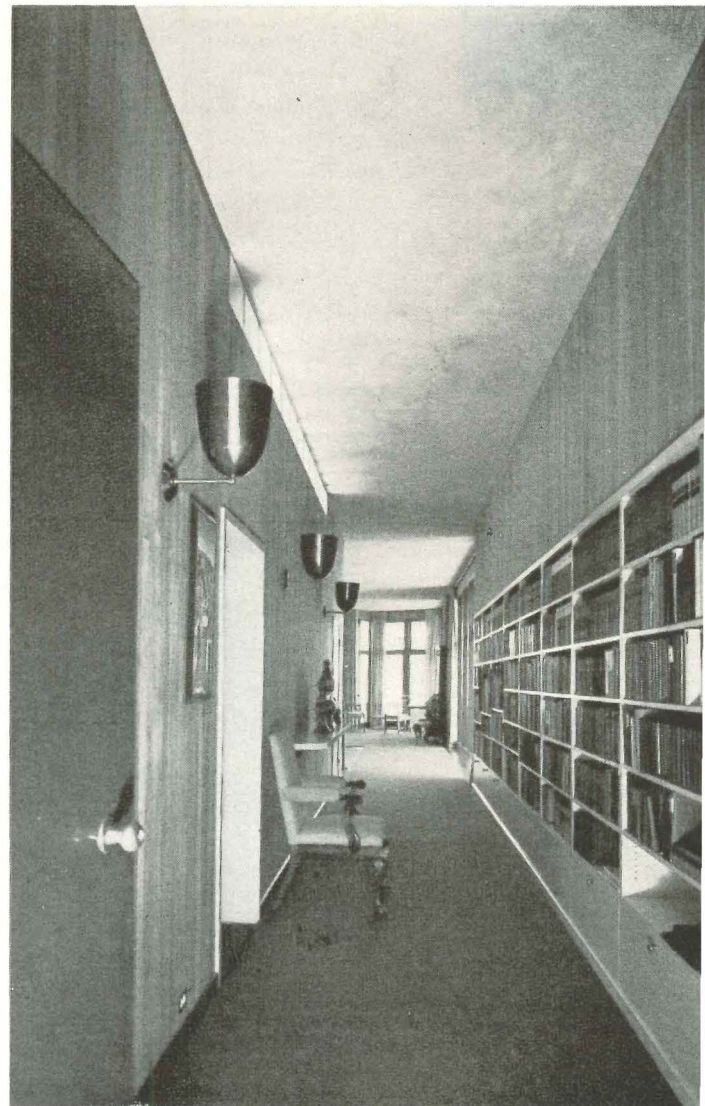
Telescopic view

The Wurster team, past masters at milking a view, were not satisfied merely to present the view in four ways; they wanted it to be a recurring wonder every time you enter the house. This was achieved by plotting a progression of experiences whose cumulative effect is similar to boarding the ferryboat which the house resembles:

- ▶ Strolling downhill toward the house, the harbor itself introduces the motion picture in which you will supply the motion.
- ▶ At the gate, a concrete gangplank (which takes you off the street and into the top floor of the house) affords a last look at the water as you approach the door.
- ▶ From the front door, a long, book-lined passageway scoots down toward the light at the far end.
- ▶ Where the corridor opens up, you burst out into the light onto a decklike living area with the city and bay spread out under your feet.
- ▶ Beyond the window walls, narrow balconies afford a ship's view down the dark hull of the building to the street 30' below.

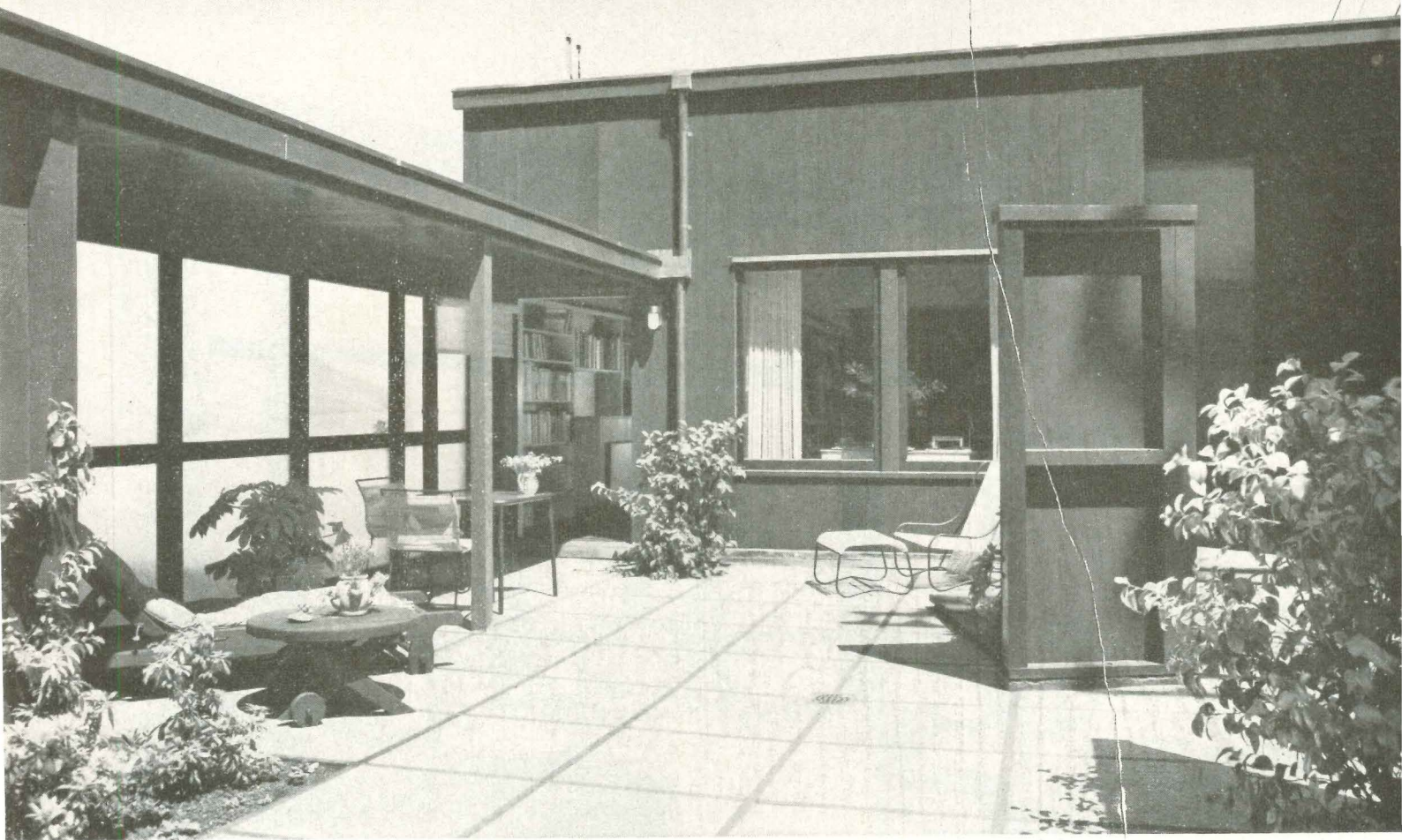
Sky windows

The telescopic approach was secured at the cost of compounding the existing lighting problem in a house where arbitrary lines determine the perimeter walls. The top-lighting used here is as impressive for its extent as for its ingenuity. The section on page 138 (plus plans, page 135) shows how six different rooms in the house obtain light from the sky. *(Continued on page 138)*



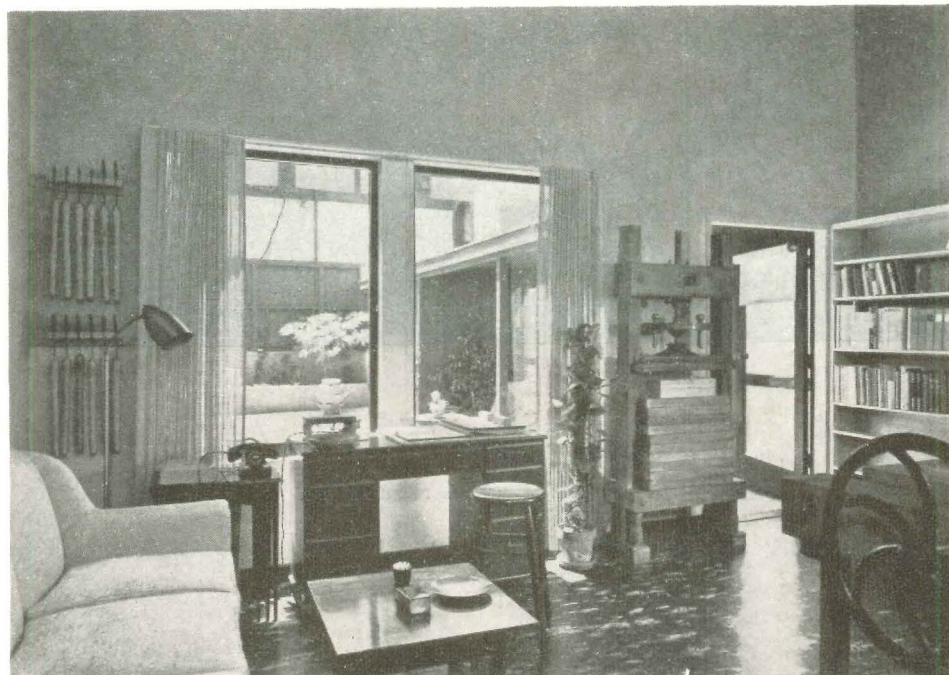
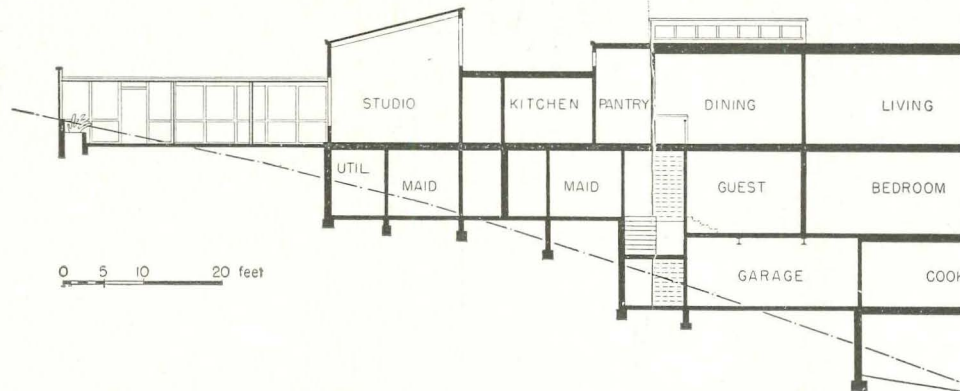


*At the end of the telescopic hall,
you emerge into the view
which spreads out at your feet in a 90° arc.*



In contrast to the high, wide and handsome view which dominates the living area, the studio opens on a secluded garden, above. Note opaque glass screen which masks out all but one unobstructed glimpse of the harbor visible past adjacent buildings.

The studio, below, is a spare, high room with clerestory lighting to the north and a pleasant, undistracting view south.



The house navigates the 20° slope in four levels. On the top floor, the studio, hall and pantry reach 3' to 4' above the 8' kitchen for added depth. The kitchen has a flat skylight at the deep end.

s and surprises

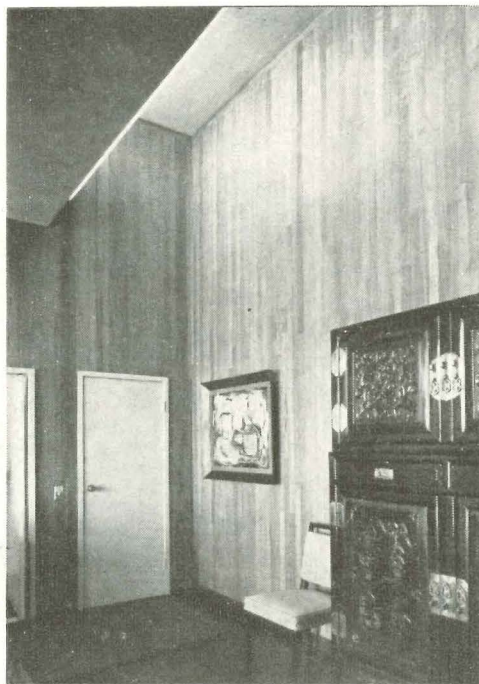
The explanation for the anomalous quality of this house is that it isn't a town house at all but a country house squeezed into the best of city lot restrictions. Its breezy nonchalance and contrasts are generally to be associated with the wider spaces outside San Francisco which are dotted with examples of Wurster's output of houses. But if it lacks urban polish, it certainly has no lack of character. Moreover, it is an eminently livable house and has a number of pleasant contrasts and surprises. The contrasts run to black-and-white extremes: the dark-wood siding against a fog-white sky; the total openness of the house related to the essential solidity of the rest; the exterior versus the lavish interiors. The surprises, appropriate enough, turn up in the most unexpected forms and

the dining room and kitchen have a window wall on one side and a skylight on the other—but in reverse order;

the living area is hidden by hand-woven carpets but the dining room has exposed flooring nonetheless—on the walls;

the back wall of the living room has a hole in it forming a porch to the view;

the studded balcony rail turns out to be plain iron mesh with pipe spacers, square washers and wing nuts.



In the dining room, light and view are separate: a clerestory, above, admits light but no view; the window wall, 10' back of the table, affords a view but little direct light. Gold and black chairs, below, set off teakwood walls.





VICTOR GRUEN, architect
LARRY SMITH & CO., economic consultants

TWO-LEVEL SHOPPING CENTER

Architect Victor Gruen brings the principles of the large regional center

to a medium-sized project for a farsighted land developer

For 13 years, architect Victor Gruen has concentrated on retail store design, with projects ranging in size from small single shops (AF, July '52) to mammoth regional centers, such as the Eastland and Northland projects for Detroit's J. L. Hudson Co. (Aug. '50 issue). His newest project—in the medium-sized field—is the Woodlawn shopping center, in Wichita, Kan.

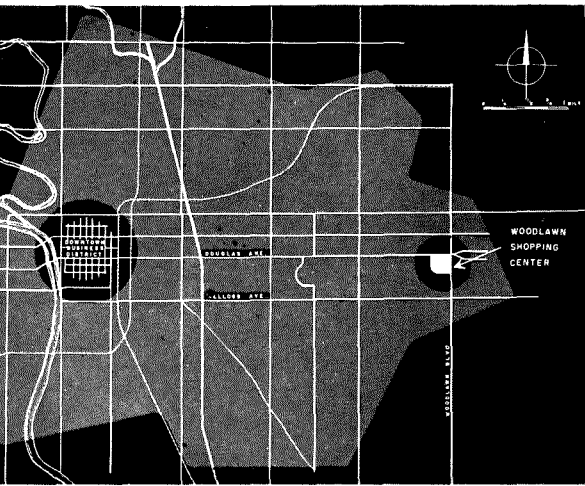
When Wheeler Kelly Hagny Trust Co. began to develop large tracts of residential land for builders in Wichita's east side, they planned to build a shopping center when the city's growth demanded one. For this purpose they providentially set aside a pie-shaped 25-acre site at the intersection of two major traffic arteries, a space that was thought needlessly large at that time. But when architect Gruen was called in to plan Woodlawn shopping center this year, he found that the sales potential was greater than had been anticipated.

This left him with a twofold and very typical problem: first, to realize full sales potential today, yet leave room for possible growth tomorrow; second, to give rein to all of Gruen's planning principles for a successful shopping center:

- ▶ an arrangement of stores that provides the greatest interplay between them;
- ▶ minimum walking distances, both within and without the shopping complex;
- ▶ elimination of any poor store locations or awkward, isolated parking locations;
- ▶ separation of foot and auto traffic and provision for unobtrusive service facilities;
- ▶ an architecturally unified building group;
- ▶ efficient operation;
- ▶ above all, the creation of a "shopping atmosphere" offering customers beauty, comfort, relaxation,

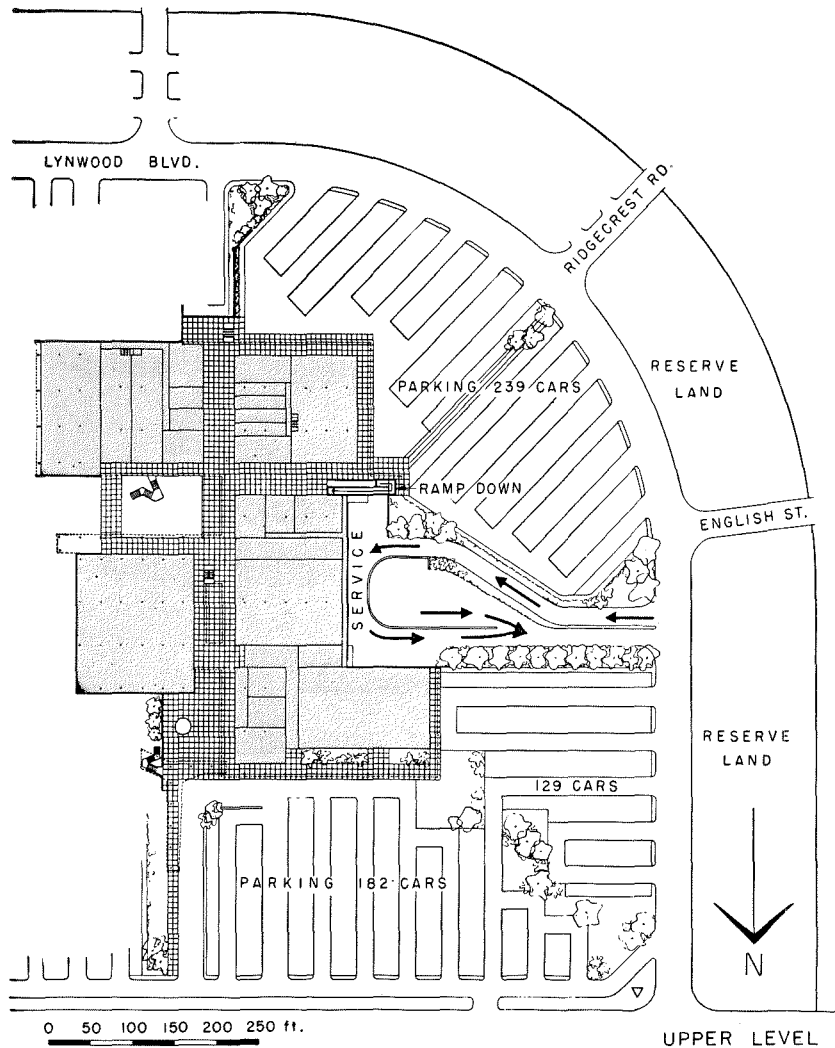
To double the use of the ground, Gruen put his center on two floor levels; and to make the two levels economical, he avoided himself of the cheapness of bulldozing, especially on a site with a 13' difference of grade. Parking on the high western side is on the second-floor level and on the low eastern side at first-floor level. Customers, when once familiar with the layout, will do a minimum of stair and ramp climbing.

The center is of Gruen's so-called "cluster" type which means

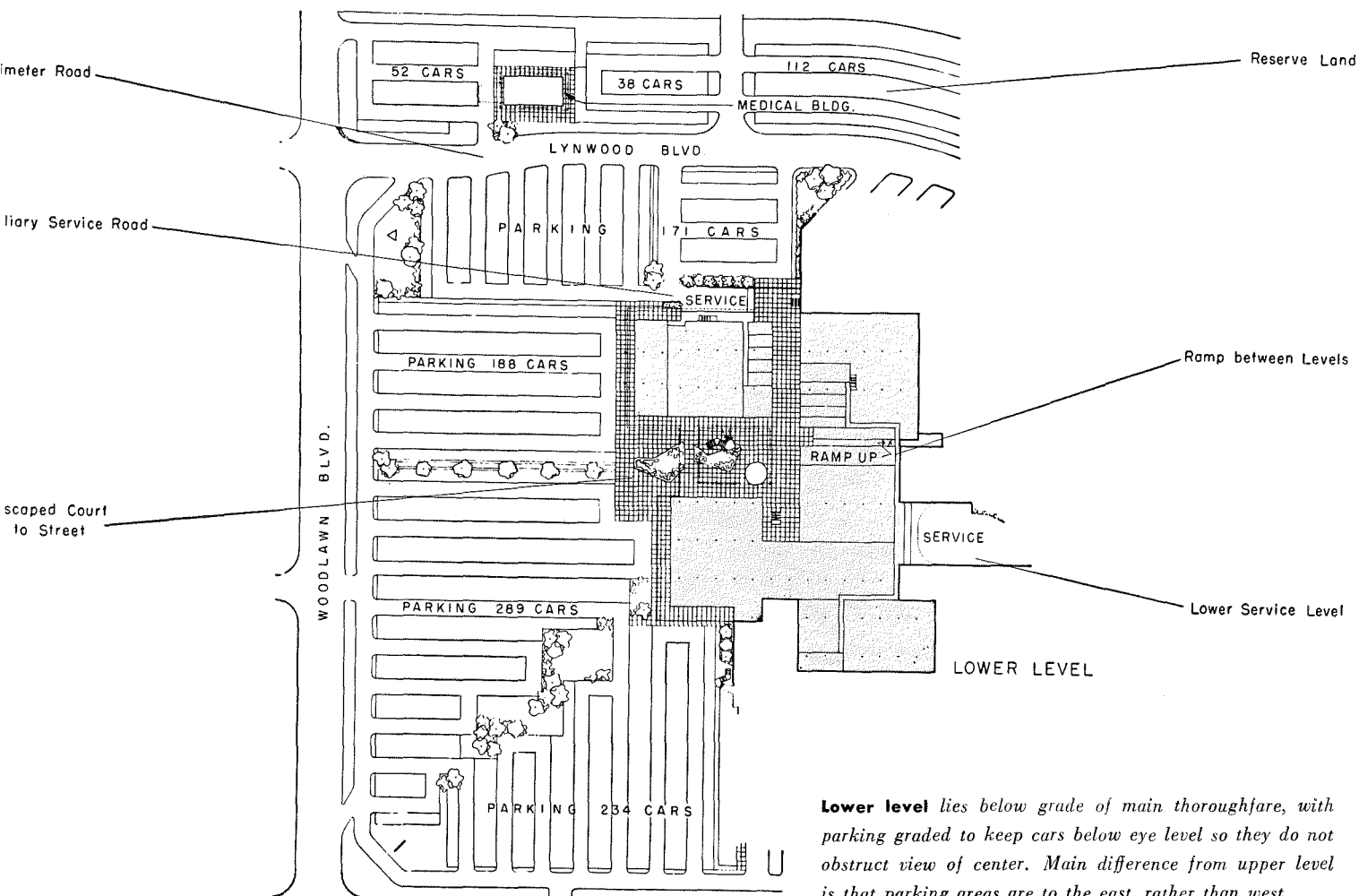


Woodlawn's 25 acres, situated just within the present city limits, are in heart of Wichita's most rapidly growing residential area and face main road leading from this area to present downtown shopping facilities.

Upper level is several feet above grade of curved perimeter road. Parking lot slopes up to store-front line, increasing visibility from main arteries. Landscaped court is open on one side, upper-level stores forming two sides and major department store, the fourth. Covered arcade leads from parking areas and stops past stores and onto shopping balconies around court.

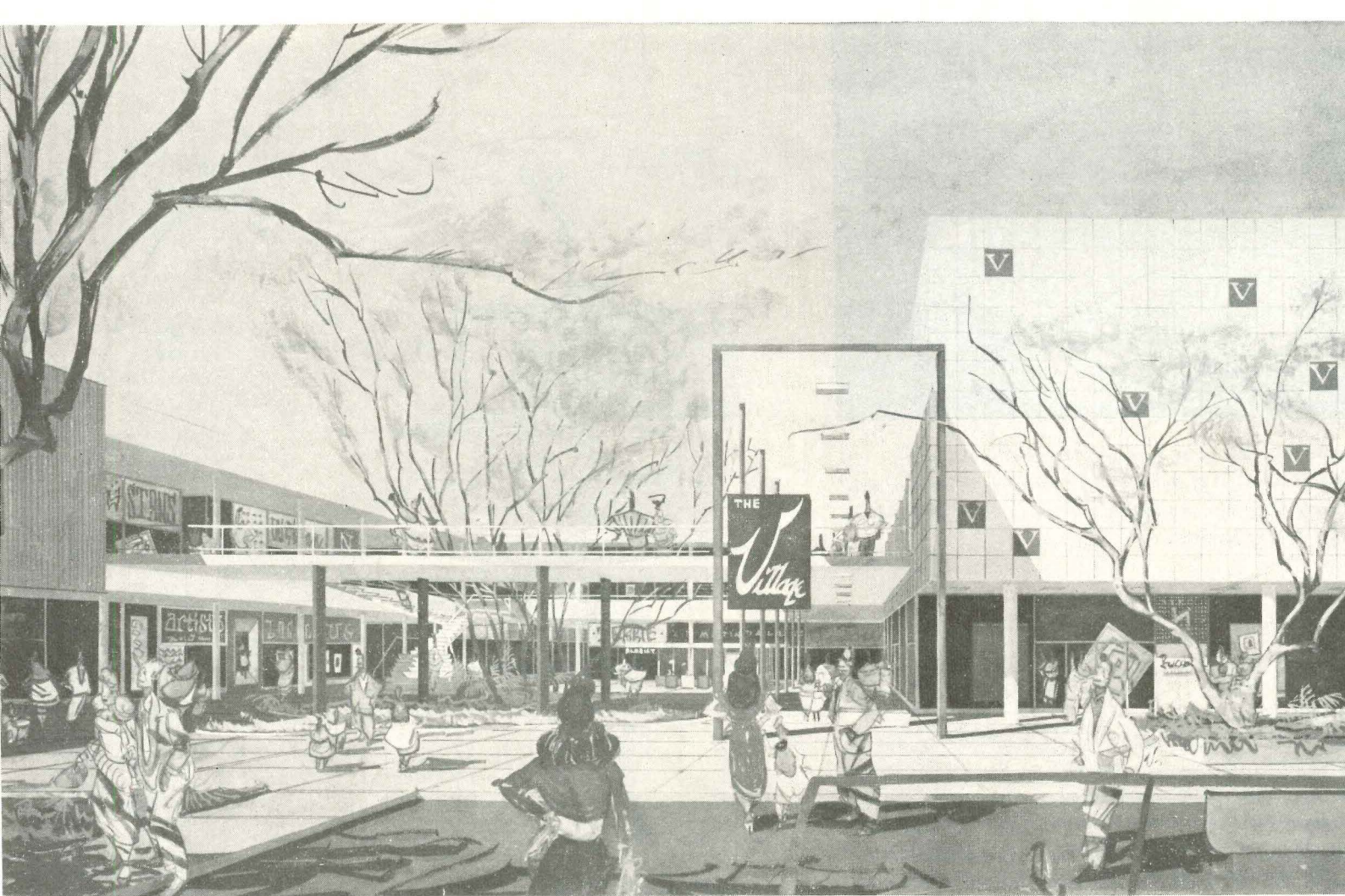


UPPER LEVEL



LOWER LEVEL

Lower level lies below grade of main thoroughfare, with parking graded to keep cars below eye level so they do not obstruct view of center. Main difference from upper level is that parking areas are to the east, rather than west.



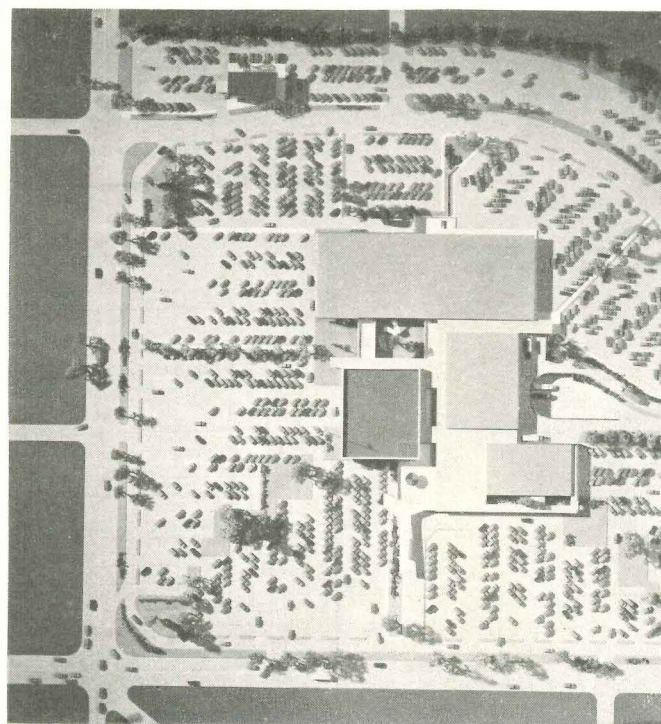
View from lower level shows shopping balconies serving upper stores. Ramp and stairs at strategic points connect the two levels to parking areas. (Name was changed from "The Village" to "Woodlawn" after sketches were drawn.)

that customers are sucked past or through smaller stores at the periphery on their way to the big store in the middle, giving the smaller stores maximum sales opportunity. (This differs from the famous Framingham plan where the two main department stores are at the two ends of a mall, with the small stores strung out between them.) The "cluster" is carefully organized to favor the best approaches.

Gruen's economical bulldozer technique, applied to a two-level scheme, gave him the added advantage of high visibility in relatively flat country. The two-story height is visible from everywhere around, and Gruen artfully disposed the parking lots so as not to interfere with the view.

Because this two-level scheme in effect puts the store basements up on the ground, it gives merchants a wide range of choice in store layout: they can take one- or two-level selling space or make any combination between selling and storage levels.

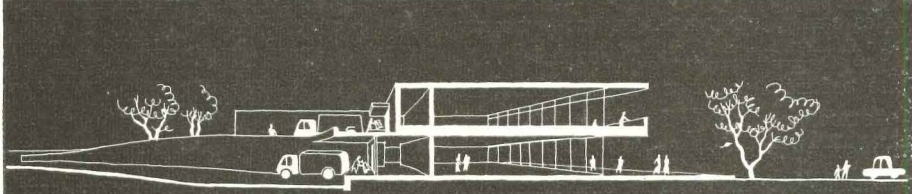
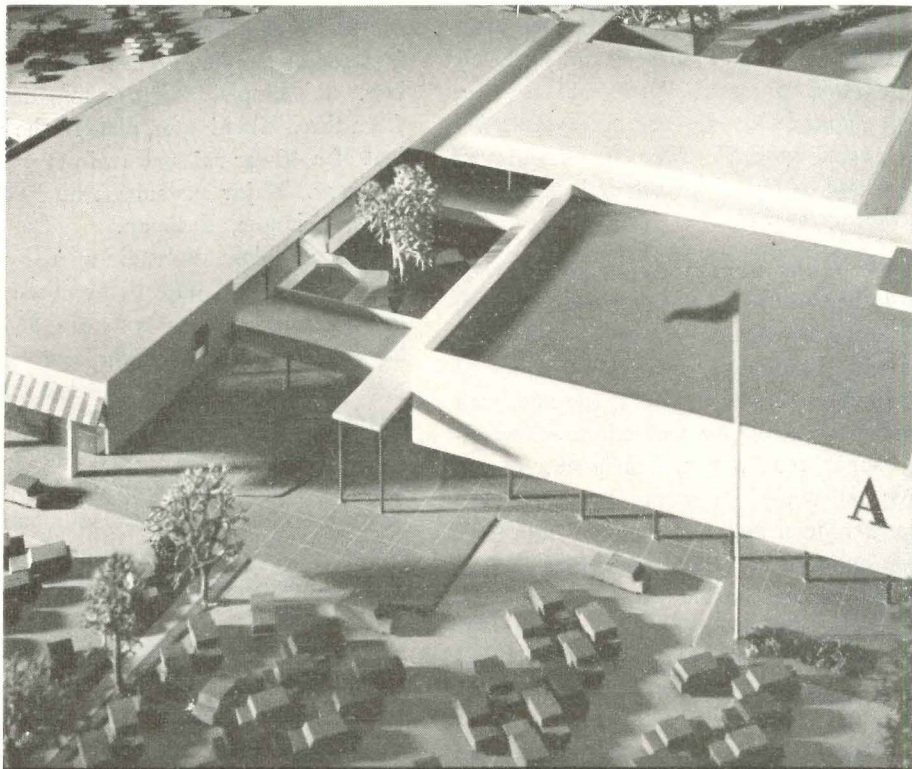
Goods' entry has often had less attention than customer entry, (resulting in traffic tangles), or has been solved by expensive tunnels to put goods' entry out of sight. At Woodlawn, trucks have a separate entrance at the upper-level service yard, and all trucks drive one way through the same loop to avoid cross traffic. Trucks serving the upper level stop there at docks; the others continue on past and onto a ramp to the lower level where a single receiving dock is connected with virtually every store. All trucks then exit at the lower level.



Woodlawn's buffer zone around two sides of project provides over 100,000 sq ft of employee parking, acts as a protective zone for adjacent residential areas and forms a reserve for future expansion.

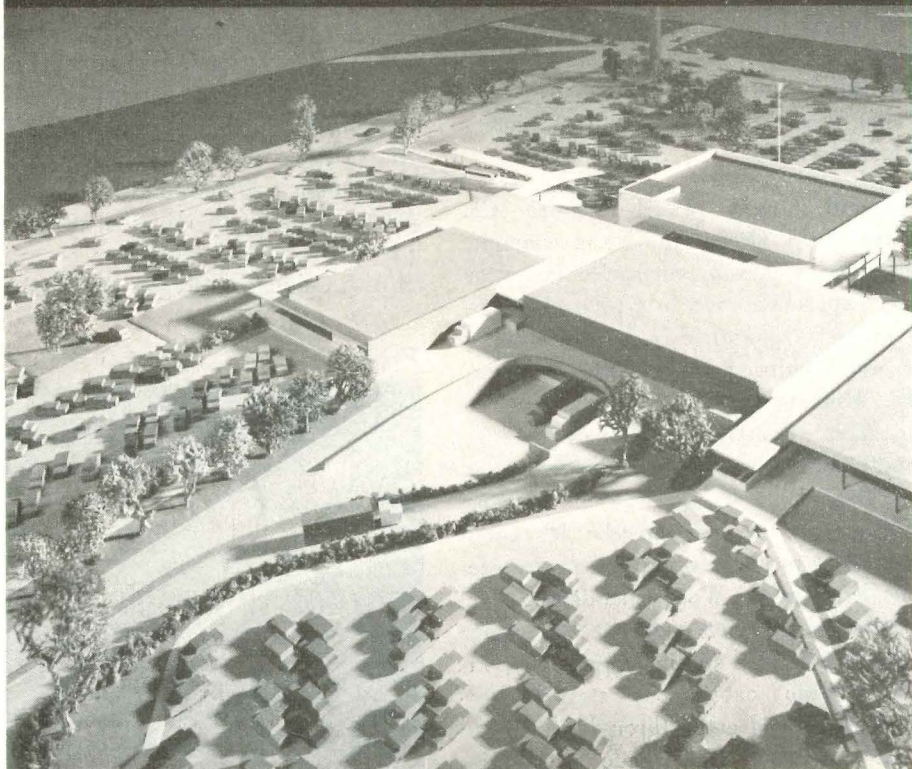
Level sales area makes maximum use of land. Ample parking provided for each level through natural contours of the site, shopping activity is concentrated, walking distances minimized and extremely close interplay between parking and stores, and stores and parking achieved. Total floor area is 206,200 sq. ft., almost equally divided between two levels. Wichita now has no major shopping center outside downtown area though the population increased 142% between 1940-50, and is still growing.

Receiving docks take up no more ground space than service facilities, permit serving both levels at one time. Access at lower level leads to an internal service corridor which connects with most stores.



..... the major receiving area consists of a two-level service yard.....

Service yard is completely divorced from parking-lot as is truck entry and exit. Planting areas and landscaping serve as dividers between parking-area segments and furnish shade. Parking ratio is set at 7.9 cars per sq. ft. of rental area by Gruen's yardstick that each parking stall will bring in between \$8,000 and \$12,000 per year and that the parking needed can best be estimated by an expert estimate of the center's probable volume, adjusted by local modifying factors.



"Revolution" in Lumber—cheap, strong hardboards are among new products made from yesterday's waste

The lumber industry has done in a few short months what it took the meat-packing industry years to accomplish: use the waste material previously thrown away in the production process. Pork packers have long claimed that they use "everything but the pig's squeal." Now lumbermen go them one better, claim use of "everything, including the bark."

The hectic scramble to utilize wood waste has aroused national interest through new products that have started to enter the market: hardboard made from pressed wood chips, new cellulose goods and such implausible-sounding confections as "wooden" sugar and "wooden" molasses.

Of the many new items, the hardboard has been described as the lumber industry's most outstanding development in 30 years. NAHB reports it thus on a list of eight "sparkling discoveries" in new homebuilding products: "laminated wood paneling fused under heat and pressure from wood flakes and chips; a veneer stronger than most wood at less cost than plywood; handles easily, holds nails and screws near the edge without splitting" (see below).

The potential for wood-waste utilization is enormous. The West Coast industry, which supplies a quarter of the nation's forest products and a third of its lumber, cut 12 billion bd. ft. of lumber last year. This indicates a waste, under "old-style" logging methods, of at least 5 billion bd. ft. of wood (or "cellulose," as the wood chemists call it).

Already an estimated 20% of this waste is being used through two methods, chemical and physical.

Chemical—Oregon Wood Chemical Co. at Springfield, Ore. is the No. 1 example. Started as a private enterprise last year (after experimentation as a pilot plant under industry sponsorship), it uses nothing but wood chips from neighboring sawmills. Hillman Lueddemann, president of the West Coast Lumbermen's Assn., proudly passes out sample bottles of sugar from this plant. Tasters say the Cubans had best look to their laurels; it's good sugar—a by-product from the manufacture of alcohol. Oregon Wood Chemical's other products include 5%-sugar, acetic acid, lignin, wax, alcohol and molasses. (Oregon State College experiment station has brought hogs and cattle through an entire season on cattle feed made with this

"wooden molasses," and the station reports that the cattle "fattened beautifully.")

Also on the chemical side, Rayonier Co. is a good example of what's doing in cellulose. It shipped 355,000 tons last year from three Washington plants—the equivalent of a 40-car railroad train every day of the year. Major customers: du Pont, Hercules, Celanese, Eastman.

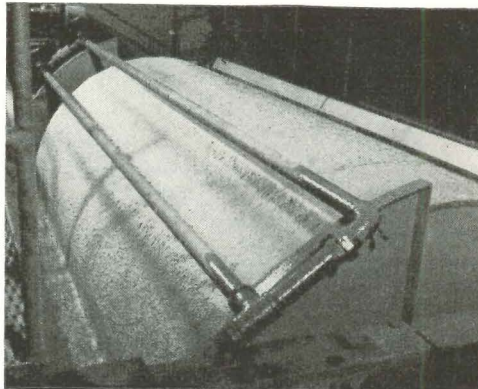
This cellulose pulp, like many other wood-waste developments, has been known for many years, but has been filed on a back shelf waiting for the time when it was feasible to produce in commercial quantities. Rayonier's cellulose now finds its way into rayon tire cord, high-pressure hose, belting, parachutes, cellophane, photographic film and paper, noninflammable movie film, X-ray film, yarn, rugs, curtains, clothing, upholstery, braid and a thousand other articles.

Another new development, now in the market research stage, is utilization of the waste sulphite liquor from pulp mills, which amounts to as much as 50% of the log and is a river pollution menace. It has been broken into chemical components used in adhesives, heart nutrient, linoleum paste and even vanilla.

Physical—Of greatest interest to the homebuilding industry are the two wood-waste materials manufactured mechanically: hardboard and bark products.

Hardboard is beginning to throw a scare into the plywood industry, especially with high quality "peeler" logs growing scarcer. Owners of 43 plywood mills in California, Oregon, Washington, British Columbia and Alaska are a little worried about what the new product may do to them when it really gets into production in the 18 hardboard plants planned, building or operating in British Columbia, Oregon and Washington.

Pulped wood being formed into sheets



Photos: Condit Studio; Leonard Delano Studio

In these plants, chips are steam-cooked in big kettles to soften the resin, then dumped into "defibrators" that chew them into component wood fibers. After further refining in a "pulper" they are formed into a blanket on a Fourdrinier machine, as in paper mills, molded in a hot press and sent to plywood manufacture, trimmed and sent to market as "wet-formed" hardboard. Among its uses: furniture, store fixtures, subflooring, exterior siding, door panels, countertops.

Recently some companies have used even the sawdust and shavings, bonding them under pressure with synthetic resin in "cold-formed" boards. High cost and short supply of resin has limited production, however. Other fertile fields now being expanded are those of fire-resistant and decay-resistant hardboards. Newest product of the Douglas Fir Institute is a reinforced sandwich of low-grade plywood faced on both sides with hardboard.

Forest Fiber Products Co. at Forest Grove, Wash., one of the first plants to start, started four years ago, runs its hardboard through a planer for exact thickness and also makes an extra-hard board called "Plyron" which is used as the outer layer of plywood panels for kitchen cabinets and other surfaces where a tough, smooth finish is required. And it has just announced the industry's first tongue-and-groove hardboard, made in 16" x 8' sheets, which it believes will outclass other materials in ease of handling, sawing and nailing.

First hardboard plant to use wood waste completely, including the bark, was started this summer by the Oregon Lumber Co. in Dee, Ore.

Besides hardboard, the biggest mechanical utilizer of wood waste is a new hardboard mill at Longview, Wash. built by West

(Continued on page 146)

The finished building product

